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ROADS AND ROAD BUILDING.

HEARING

BEFORE THE

COMMITTEE ON AGRICULTURE AND FORESTRY,

UNITED STATES SENATE,

TUESDAY, JANUARY 26, 1904,

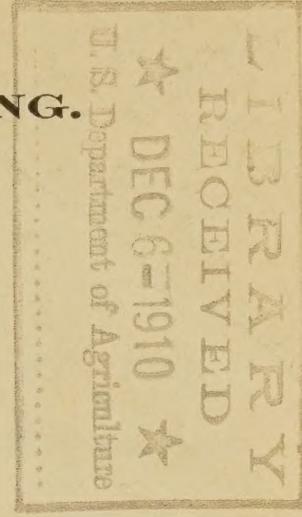
ON

The bill, introduced by Senator Latimer (S. 3477), to establish in the Department of Agriculture a bureau to be known as the Bureau of Public Highways, and to provide for National aid in the improvement of the public roads; and the Brownlow bill, so called, introduced by Senator Gallinger (S. 2539), to create in the Department of Agriculture a bureau to be known as the Bureau of Public Roads, and to provide for a system of national, State, and local cooperation in the permanent improvement of the public highways.

WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1904.



ROADS AND ROAD BUILDING.

TUESDAY, January 26, 1904.

The committee met at 10.30 a. m.

Present: Senators Proctor (chairman), Foster, of Washington, Doliver, Quarles, and Latimer.

Also Hon. W. P. Brownlow, Representative in Congress of the First district of Tennessee.

The committee of the National Good Roads Association, Thomas G. Harper, chairman, appeared.

The CHAIRMAN (Senator Proctor). The committee will come to order and we will proceed to business. Who wishes first to be heard? Both the Latimer bill and the Brownlow bill, so called, are before us. I have not examined them carefully, but I see that \$24,000,000 is the sum proposed to be appropriated in each. I suppose that is the main idea.

Senator FOSTER, of Washington. Both bills agree on that point.

The CHAIRMAN. Yes. Gentlemen, you will proceed.

Senator LATIMER. Senator Harper, of Burlington, Iowa, is chairman of the delegation and will take charge of the hearing.

RESOLUTION OF NATIONAL GOOD ROADS CONVENTION.

In accordance with the direction of the National Good Roads Convention, Mr. Harper presented its resolution to the committee, as follows:

"Be it resolved by the National Good Roads Convention, assembled in St. Louis, Mo., April 27, 28, and 29, 1903:

"1. That the building of good roads in the United States is of paramount importance to national prosperity and commercial supremacy.

"2. That we indorse the work of the Office of Public-Road Inquiries of the United States Department of Agriculture for the betterment of the public highways of the country; and we believe this office should be enlarged into a bureau of the Department of Agriculture with sufficient appropriations at its disposal to extend its work into all the States, and that we especially urge the Senators and Representatives in Congress to vote for such increased appropriation.

"3. That the greatest progress in the improvement of the public highways has been made in the States which have adopted the principle of State and local cooperation, and consequently this convention declares itself in favor of State aid in the improvement of the public highways.

"4. That we believe the appropriations heretofore made by the National Government for the building of railroads and canals and the

improvement of rivers and harbors have been wise and beneficent; but that we also believe a Federal appropriation for the improvement of our common highways has now become necessary to extend the blessings of intelligence, to promote a high order of citizenship among all classes of people, and to meet the ever-growing necessities of the agricultural classes. We therefore demand, in justice to the agricultural classes, Federal appropriations to aid in highway construction, and we recommend the harmonious cooperation of the township, county, State, and National governments in the furtherance of road improvement.

"5. That this resolution favoring National aid be presented to the Congress of the United States by a committee composed of one person from each State of the Union, to be selected by the secretary of the National Good Roads Association, who shall also arrange the date and place of meeting in Washington, D. C., and for the presentation of said resolutions by the said committee to the committees of Congress having charge of the bill: *Provided*, That representatives of the leading commercial and industrial organizations interested in highway improvement may be included in said committee, to be selected in like manner."

STATEMENT OF THOMAS G. HARPER, OF IOWA.

Mr. HARPER. Mr. Chairman and gentlemen of the committee, the question you have so kindly consented to hear us discuss is not a new or novel one, nor is it an idle dream.

In asking to be heard upon the question we must not be understood as seeking to call in question your willingness to see nor ability to understand a just demand of the people.

We know that our people have selected you from their numbers and sent you into these great bodies as their representatives to consider and do those things that will result in their highest and best good.

That you serve these people righteously and fearlessly as God gives you the wisdom to see the right, we do not question.

We come to you, gentlemen, from that great division of our people known as the common people—that division of whom the mighty Lincoln so quaintly said that he believed "that God liked best because he made so many of them."

We come from that class of our people who in the one hundred and twenty-five years of our Nation's existence have never been appealed to by our country in vain.

When war's ugly aspect overshadowed our land and the life of our splendid institutions was imperiled, this class have ever nobly responded, and in the thunders of those awful conflicts they constituted the heroes behind the guns.

Where duty was the heaviest, suffering the keenest, and sacrifice the most exacting and complete, these people have ever been found. From Valley Forge to Manila, from 1776 to 1898 our country has never asked service of them that it has been turned, empty-handed, away. In their suffering and blood have they vindicated again and again their right to citizenship.

Then, through the right with which this citizenship has invested us, we are here to-day.

For the first time in the history of our land we are to-day knocking at the doors of the American Congress with a demand.

We come at a period when our country is at peace—and may it ever thus remain—with all mankind. No war is impending, none threatening. The white-winged angel of peace is everywhere blessing mankind and prosperity is rife in our land; the vaults of our country's Treasury, with its huge accumulations gathered up from all our people, are heaped with idle money.

Gentlemen, there never was a more opportune time for us to come, there never before existed profounder reason why our demand should be granted.

It may be contended that we want to get our hands into this mighty accumulation of our country's money. We want to be honest and frank with you and admit that that is exactly where we want our hands, and we want to keep our hands there until we have emptied those vaults and instead of full vaults of idle money we will have stretched up and down our vast country improved common roads.

You have been emptying into the rivers and harbors of our country fabulous millions. You have thrown open the door when the railroad corporations have come, and have not only invited them in but heard and responded to their demands, and millions of acres of our public domain have been bestowed upon these corporations to aid them in the construction of these mighty lines of transportation. You have listened to the cry of distress and nobly responded, and the American people bless you for these evidences of responsive heart.

We find no fault with what you have done in the past. We indorse and approve these acts, but we bring to your notice the common roads of our country in their deplorable condition and ask you to come with this mighty accumulation of money and help us change and better their condition.

In the span of a single lifetime wise laws have driven our country along lines of progress at a dizzy pace, but in this mighty progress our common roads have been left out of account. We can and do point with justifiable pride to our progress on every other line, but our heads fall down in confused shame when our eyes come in contact with our common roads.

Our civilization has made in these years mighty strides, but it has halted at and not yet crossed the threshold of progress in common road building.

This question, gentlemen, is now confronting you. What are you going to do with it? It is the profoundest question now engaging the attention of thinking people. You may imagine us a herd of cranks, if you like, but if you will give us the money we will not quarrel about the name you bestow upon us.

What we want are improved roads, that our people may cease to pay the enormous mud tax they annually contribute to the goddess of bad roads.

You may do with our demand what you will, but on one thing you may depend, that the demand is here to stay—it will not down. It may be nailed to the cross. It may die there. It may be taken therefrom and laid away in its rocky tomb, but it will come forth, as did truth on Calvary's hill, to roll down through the ages to brighten and bless the world.

History but repeats itself. No country now enjoys improved roads

without the General Government's aid in their construction. We do not believe ours will prove an exception.

We have come here from all parts of our mighty country. We have come at our own expense and left our business at a standstill at home while we make our demand. If you will put your ear to the ground you will hear the voice of the people who sent us, and that voice, gentlemen, is the supreme law of our land.

Grant our demand, gentlemen, that our rural homes may be brightened and blessed; that our common roads may be improved so that the advantages of our advanced civilization may flow in upon these people and their homes, to the end that the brainy boys and girls of these homes will not desert them and join the mighty army of place hunters in our cities because of their repulsive environments.

Gentlemen, this money is ours. We want it, and we will expend it in aiding the construction of roads until the sun shall no longer shine, the rain fall, and the wind blow over and upon a single bad road in all our splendid country.

STATEMENT OF WINTHROP E. SCARRITT, OF NEW JERSEY.

Mr. HARPER. I will ask the committee to listen to some gentlemen who have been selected to represent the States from which they come. I will first call upon Mr. Scarritt, of New Jersey.

Mr. SCARRITT. Mr. Chairman and gentlemen of the committee, the roads which were built by the Romans under the Caesars still remain the wonder of the modern world. The advance or retrogression of a nation is somewhat measured by the condition of its roads. This is a country of great contrasts. We have the biggest rivers and the biggest mountains and the biggest trusts and the poorest roads of any nation on earth.

France, with its 23,000 miles of good road built by the National Government, is an example to the world. The little Swiss Republic up there in the Alps has as good roads as has France, and they were likewise built with the aid of the National Government.

So we are not without precedents among the most intelligent nations of the world in coming here to ask you for National aid in the building of roads.

My remarks are to be very brief because there are many other gentlemen to follow me. I shall gather them all around three propositions:

First, the public welfare. I am not a lawyer and not very much of a student of our Constitution, but if I have read it aright its purport is that this great Nation through its lawmaking body has a right to provide for the public welfare. Next to religion and education how better can the public welfare be promoted than by National aid to good roads for the benefit of all our citizens?

On no subject ever brought before Congress has there been such a unanimity of public opinion as on this question of National aid for good roads. We may differ on the tariff, we may differ on the trusts, we may differ upon the Philippine policy, and a thousand other questions, but where can you find a man so ignorant, or so thoughtless, or so careless that he will not say that good roads are necessary for the progress and the advancement of a people?

That is my first proposition then—that good roads promote the public welfare.

My second proposition is that good roads pay. The American mind, gentlemen, if it is anything, is practical. As a business proposition good roads pay. There need be no argument advanced along that line. Do you suppose that if there was suggested to Mr. A. J. Cassatt or Mr. J. J. Hill, the great railroad kings, a scheme by which 1 mill per ton per mile could be saved in the haulage of freight, they would not consider it a golden opportunity and welcome the man who brought it to their attention as a benefactor? Yet France hauls its products over its roads $12\frac{1}{2}$ cents per ton per mile cheaper than we haul ours in this country. Every time the sun sets the bad roads of the United States have cost our people \$1,500,000.

Gentlemen, those are the figures of the United States Government officials, carefully worked out. Suppose that a foreign enemy landed on our shore at Portland, Oreg., or Portland, Me., and suppose that it was devastating the country at the rate of \$1,500,000 every time the sun sets, how long would it be before the conscience and the thought of this great Nation would be aroused and a thousand times a thousand men would sweep the enemy into the sea? Yet we allow this awful waste from bad roads to go on from day to day.

We are about to spend \$200,000,000, more or less, on the Panama Canal. Why? Because it will pay. In New York they have voted \$100,000,000 for the improvement of the Erie Canal. Why? Because it pays. And yet, gentlemen, a thousand times more people travel on land and a thousand times as many tons of freight travel overland as ever have traveled over the water or ever will travel over the water.

Four hundred and fifty million dollars of the Government's money has gone into rivers and harbors. Now, is it not time that the man who has never seen the sea or has never seen a deep river should have his share in the benefits of National aid along the little country roads that run by his humble cottage? The Government, I believe, might appoint a commission and search for a generation to discover what investment would pay best in all the world and it would have to come back to the proposition that it is the experience of all history and all civilization that good roads pay the best of all. Therefore, my second proposition is that good roads pay.

Third, justice to the farmer. Gentlemen, the burdens of life fall hardest upon the farmer. I know, for I was raised upon a farm. I know the loneliness and the desolation of the isolated farm, miles away from towns and villages. The farmer is unable to get to the towns through the long, dreary months of winter, because he is made a prisoner by the bad condition of the roads. Make the roads good and you make the farmer a better and a more intelligent citizen, coming in contact with his fellows, rubbing mind against mind, and by the attrition of thought against thought becoming more hopeful and more alert and a better citizen of the Great Republic.

For one hundred and twenty-seven years the farmer has borne the heaviest burdens of life. He has responded to every call of duty. Never before has he come to Congress and asked a single thing, and now for the first time in more than a century and a quarter he comes here and knocks at the doors of Congress and says, "Gentlemen, help us to build good roads for all the people." He believes, with Lincoln, that this is a "Government of the people, by the people, and for the people."

The farmer pays 60 per cent of the taxes. He does not swear them

off. Did you ever hear of a farmer swearing off his taxes? Yonder in the city of New York, where I labor eight or ten hours every day, when tax time comes around we see the plutocrats and the millionaires swarming to the tax offices and swearing off their taxes. That is a picture we have never seen in a rural district.

What has the farmer ever asked of Congress? What has he ever gotten of Congress except a few garden seeds?

To-day he comes and asks for bread; will you give him a stone? If you do you will find the handwriting on the wall, "Thou hast been weighed in the balance and found wanting."

In the last analysis the prosperity of the country depends upon the farmer. What affects him affects everybody. Last year the farmers raised \$950,000,000 worth of corn, \$650,000,000 worth of hay, \$500,000,000 worth of cotton, \$450,000,000 worth of wheat, and our bad roads put a tax of 12½ cents a ton per mile on every ton of those products that was hauled to market. How long can even such a great and wealthy nation as the United States stand up in competition with the rest of the world with such a handicap as that?

In conclusion, gentlemen, I beg to say that we have come to you from the people. Ours is a voice from the people. We want National aid for good roads. We are not here as suppliants. We are simply coming to you, our agents, our trustees, and asking for our own. Will you grant it? This is a history-making hour. By your decision you can shove forward or backward the hands of progress on the dial of time in America for a generation. Shove them forward and you will not regret it. Then long years from now, when good roads interlace every State of our fair Nation, when the battle has been fought and victory won, and you are sleeping beside the still waters of the Potomac, or beneath the green hills of the granite mountains, or elsewhere, it will be the proudest heritage that you will leave to your children that they will say of you, "Our fathers were in at the birth of this good-roads movement; they assisted in directing its infant footsteps, and now, behold the full-grown man!"

STATEMENT OF SAMUEL HILL, OF SEATTLE, WASH.

Mr. HILL. Mr. Chairman and gentlemen of the committee, there are some subjects upon which we feel so strongly that we can not speak. The needs of the people for whom I am now to speak is such a subject. I often wish that I might have the gift of eloquence, but never more than now. Never, I believe, was a subject presented to any body of men so important as this. If I am at all familiar with the history of this country, I know that no subject of such great importance was ever presented to any body of men in this Government as the one we are met here to-day to present to you.

I do not care to speak of the farmers alone. I come from the far away State of Washington, and from my Washington to your Washington is a long way. But I want you to know that every time you draw a line on the map from my State to your Washington, and every time that line crosses 40 acres of land it crosses the farm—the home of a man who has a permanent stake, or will, as settlers increase, have a permanent stake in this country.

I wish to say to you, gentlemen, that no class of people in the United States has ever done so much for the United States as the farming

people have done. You will be told this morning what they shipped abroad last year in round numbers, almost a billion dollars. Their products paid for your purchases abroad; turned the tide of trade in your favor and paid your debts.

Not that alone. You have found them ready at every step to do their share in the maintenance of this Government. You may open the recorded pages of our history and you will find it so, but take, if you please, our civil war alone—you may not know, but I want you to know now, that the two regiments that hold the record in the world's history for fighting, fought on one side for the North, on the other side for the South, the First Minnesota, at the battle of Gettysburg, lost in thirty-five minutes, 83 per cent killed and wounded.

One company, that of Captain Tuttle, of the Twenty-sixth North Carolina, went in 77 strong, and at the end of three days' fighting only one man out of that company was left. I say to you, gentlemen, that both of those regiments were composed almost entirely of farmers. At every step, wherever you turn, you find that the farmers are the people who support the country.

There is one thing more I want you to bear in mind. We do not come here and ask for *your* money; we look upon you as the recipients for the time being of the trust reposed in you by the whole people. You are merely the guardians of the fund. You are probably aware that of all the taxes you raise, 60 per cent are paid by the farmer. Are you aware that you give them back only 10 per cent in appropriations?

Senator DOLLIVER. How do you make that out?

Mr. HILL. We have those figures officially from the Department of Agriculture.

Senator DOLLIVER. That would leave the farmers chewing most of the tobacco and drinking most of the liquor.

Mr. HILL. I am speaking of the total tax raised in the country, not merely of the tax raised by internal revenue, but the total tax.

Senator DOLLIVER. I wanted to defend my own constituents.
[Laughter.]

Mr. HILL. I have no doubt they are doing their share.

Mr. HARPER. We do not drink in our State of Iowa.

Mr. HILL. I wish you also to bear in mind that you make great appropriations for rivers and harbors. Many of them are wise, but in the State of Minnesota, where I formerly lived, I knew of my own knowledge that the value of the traffic borne on one Minnesota river was less every year than the annual appropriation made to dredge and improve that river.

You make appropriations, if you please, for public buildings; but I want to ask you, gentlemen, to come out with me and ride in central Washington, as Senator Foster, whom I see here, has done, across some of those dry plains and suck in the alkali dust; and it will be a great pleasure to you doubtless as you ride along in a wagon behind a heavy load to reflect that Congress in its wisdom has seen fit to erect public buildings in cities which the farmers may never see, and to leave unaided and uncared for the roads which they must daily travel.

Senator FOSTER, of Washington. There would probably be something in the wagon to neutralize the dust. [Laughter.]

Mr. HILL. Probably it would be wise. I speak of these things, gentlemen, in all seriousness. The people we represent do not come

down here with banners and flags. They do not come down here as incendiaries at all. We come down here to represent the same body of people whom you represent. We feel that you represent them wisely and intelligently, but we do feel that this great spirit of public road improvement is a movement that has not as yet penetrated to Washington.

I made use of an expression yesterday which I am going to repeat to-day with your permission. When I was speaking at one time to an association of farmers in the State of Washington an old man came forward and said, "Young man, where do you live?" I said, "I live in Washington, sir." He said, "Which Washington, tax-eatin' Washington or tax-payin' Washington?" [Laughter.] Now, gentlemen, I do not know which Washington he meant, but I knew he was a very sincere and a very earnest man.

We may not win this time. I believe that we shall. I believe that no question to-day is so important as this question. It is our fault that we present it so feebly; but if you will think it over, if you will go back to the source of your own power, if you will go back to the people whom you represent, you will find that they are behind us; that we came down here to represent them just as you did, and in you we have confidence, as the people who sent you here have confidence in you—that you will see the right and do it.

Gentlemen, I thank you.

Senator QUARLES. I should like to ask one question. Mr. Hill is making a powerful argument from a very advanced standpoint on this question. When you get among the actual farmers back in the country is there not, after all, a feeling in their hearts that this is a movement on behalf of the automobilists and the sporting fellows?

(Cries of "No!" "No!" from the delegation.)

Mr. HILL. Gentlemen, allow me to answer the Senator.

Senator QUARLES. I want to know whether you do not encounter that idea.

Mr. HILL. I will answer that question, and I think I can answer it intelligently. I have taken a broncho and ridden across the northern part of the State of Washington, and am familiar with the State, and I do not believe there are 10 automobiles in the entire State. I have also taken occasion to go to Massachusetts, for I am on the governing board of overseers of Harvard University, and there I find there are licenses recorded in the State, or were on the last day of September, of 6,000 automobiles, and they are licensing them at the rate of 35 a day. We welcome enterprises of that kind and are glad of their cooperation, but the spirit of good roads did not begin there. It began out in the West. It began where the man bears the burden. I have been interested to find what it costs to move a ton a mile over the highways of this country. I have prepared blanks and distributed them. We have some accurate data. In the northern portion of the State of Washington it approximately costs a dollar a ton a mile. When a farmer hauls his stuff 16 miles to market, at a cost of \$16 a ton, he can not stand it.

Gentlemen, there is only one market left in the world out of which Germany has not driven us for the sale of our coarse cotton goods. That is the oriental market. I know it to be a fact that to-day more cotton spindles are turning in the South than are turning in all New England, and I want to say to you that the only products we of the West send abroad which bring back money are the products of our

farms and forests. Last year 65 per cent of all our national exports came from the farms. Will you take this burden off the back of the farmer? If you do not the time will come when every industry in this country will suffer. The time will come when the New England cotton mills will suffer. They can not stand the competition which comes from the South. You must help the farmer to find new markets for himself and them.

Owing to the cost of bringing the stuff from the farm, if you please, to the railroad station, this good-roads movement offers the only solution, I believe, of our present disturbed industrial condition. Will you take that burden from the back of the farmer? The steam railroads in this country are wisely and intelligently managed.

We have the finest system of steam highways in the world. The cost of carrying a ton a hundred miles in England is \$2.35; in Germany, \$2.25; in France, \$2; in the United States, 72 cents; but the cost of moving stuff from the farms to the station, where it starts on its road to the final market, is from two to four times what it is in France or what it is in Germany. Will you take that burden from the back of the farmer? If you do not, gentlemen, I stand here to-day and tell you that others will come after you who will. This is a serious matter. I have said it, I say it again, and I mean it.

Gentlemen, I thank you.

STATEMENT OF F. H. HYATT, OF SOUTH CAROLINA.

Mr. HARPER. Mr. Chairman, we want to set forth the views of representatives from different sections of the country. Mr. Hyatt, of South Carolina, will now address the committee.

Mr. HYATT. Mr. Chairman, and gentlemen of the committee, it is useless for me to say that it is very embarrassing for a countryman like myself to come before such a distinguished committee, but this duty has been placed upon me by the people of my State. It is a small State and we represent only about a million and a half. We held our State convention in Columbia, S. C., at our capital, just one week ago. We had representatives from every section and from every county of the State. They asked me to come up here and attend the national meeting, and to appear before this committee, if I had a chance to do so, and state that the people of our section want the Government to help us out in building our roads.

Perhaps some of the members of the committee do not understand or have not looked into the important part the Southern States are playing in this great country of ours. To-day the world is turning its eyes toward the South. It is my fortune to be placed in a part of the great belt where we produce the cotton that almost clothes the world, and to-day even our little State is only second to Massachusetts in the number of spindles in operation. Cotton mills are going up all over our State from one end of it to the other.

A few years ago the farmers woke up and realized the fact that we must have better roads. As you know, the civil war, which has passed and gone, impoverished our section of the country to such an extent that it has taken us twenty-five or thirty years to get back on our feet again. But I am glad to say, Mr. Chairman, that we are getting on our feet; that we are getting a move on us; and that this great country of ours will soon see the day when it will be proud of the South. [Applause.]

I wish that all of you could realize the responsibility which is resting upon you. Inasmuch as this is the first committee we have come before officially, the success of this movement will depend a great deal upon the decision that you reach.

I come to you then in an humble way and ask you to please give this matter serious consideration before you turn it down, because this is something the whole country is interested in. It is conceded that education and public highways go hand in hand. It is conceded that if you go into a community and see the kinds of roads and churches and schoolhouses it has you can draw your conclusion and tell what kind of people live there.

Gentlemen, I have been given only five minutes to talk to you. I wish I had more time. There is much I would wish to say, but time will not admit of it. I hope that you will all give this matter serious consideration, and if you can see your way clear that you will make a favorable report on it and let our people have the assistance of the Government in this matter, as every other civilized country has, and so build up our country that down in our Southern States, where the flowers bloom all the year around, and where we can go in winter and be free from cold and frost, we can have our public highways and our schools, and so build up our country that those who shall come after us will rise up and say, "Blessed are those who have gone before and opened this roadway for us."

I thank you, gentlemen. [Applause.]

Senator DOLLIVER. Mr. Hyatt, have you overcome in South Carolina the prejudice, if I may call it so, which used to prevail in the Southern country against the interference of the Government of the United States with local matters?

Mr. HYATT. Why, yes; we are getting to be broad-minded down there. [Applause.]

STATEMENT OF J. B. KILLEBREW, OF TENNESSEE.

Mr. HARPER. I desire to introduce Colonel Killebrew, of Tennessee, another man who will show whether this prejudice still exists.

Mr. KILLEBREW. Gentlemen of the committee, I feel honored in being invited to address you. I have addressed probably twenty different assemblies and conventions during the last three months. Every one of those conventions was composed of farmers. I do not believe there was a single man in any of those conventions who owned an automobile. When the question was put to them whether they are in favor of National aid there was not a single dissenting voice in any of those conventions. That shows you how the people feel on this subject.

Senator DOLLIVER. Were those meetings in the North or South?

Mr. KILLEBREW. Both. I addressed the road commissioners of Ohio at Columbus two weeks ago. I addressed all the road commissioners at Little Rock one week ago. I addressed the convention in the State of Washington and one in West Virginia, and all over the country. I addressed two or three in Tennessee.

Mr. HARPER. And one in Des Moines.

Mr. KILLEBREW. Thank you; one in Des Moines. I have not found one dissenting voice among all the farmers whom I have addressed, and I suppose I have addressed 10,000. There was no automobile owner in any of those conventions so far as I could ascertain.

Further than that, when the question was brought up the other day that a great National highway should be constructed from Portland, Me., to Charleston, S. C., and another great National highway along the Pacific coast, and others through the center of the country, east and west and north and south, it was unanimously voted down because the question was, whom would this benefit? and they said, the automobilists, and not the farmers. So much for that.

There is no questioning the fact that the subject of road building is engaging the attention of the people of the United States to a greater extent than ever before in the history of the country. For not only is the subject discussed in every county, township, and civil district, but the legislatures of the several States are beginning to listen to the coming storm of public applause or public indignation and are devising methods to improve the roads. But by far the most important, because the most comprehensive, movement inaugurated is that providing for National aid.

This is a wise provision and will put every community upon its mettle. Those that are imbued with the spirit of progress and improvement will not hesitate to avail themselves of this assistance in building good roads.

The adoption of this plan will be a distinctive and era-making event in the legislation of the country. To one who properly considers all the benefits that will accrue to the Nation and to all its citizens it must be conceded that no other legislation has ever been fraught with so much good for the people and with such grand possibilities. Say what we please about the influence of public schools, the press, the pulpit, the platform, and other institutions that mark the progress of mankind, yet all these are more or less dependent upon the facilities of intercourse between the people. In fact it is an undeniable truth that civilization means labor in some form, and labor is the ability to move things from place to place and its efficiency depends upon the ease with which they are moved.

No Nation has ever yet achieved permanent renown without good roads, or ever built them and regretted it afterwards. No community in possession of good roads would be willing to surrender them upon the repayment of their cost and maintenance. Of all the expenditures made by aggregated bodies, or by Government agencies, money spent in road improvement produces the greatest good and the greatest satisfaction to the greatest number. Everybody uses good roads; all enjoy and participate in the advantages and blessings of good roads. They are the morning star of progress; they are the fountain heads of trade and commerce; they are the avenues over which pass the main agencies for the dissemination of knowledge and the increase of intelligence, as well as the enjoyments of social intercourse in rural life. They provide the means for the performance of public duty of reaching local markets or shipping points on the railways. They serve more country people in the aggregate than the railroads themselves.

The rapid extension of the rural free-delivery system, now covering 300,000 square miles, and destined in the near future to be extended to the 40,000,000 people living in the rural districts, makes good roads a necessity. Why should the United States, that has attained supremacy over all other nations in wealth and in a world-wide influence in commerce and diplomacy, hesitate to enter upon a work that will bind its citizens to it with a loyalty exceeding the loyalty of the people

of any other nation whatever? Why hesitate when good roads are the most important factors in carrying out the wise provisions for increasing the intelligence of its citizenship through rural-free delivery? No other highly civilized nation on earth has so many bad roads as the United States. England, France, Germany, Spain, Italy, all have good roads.

This Government belongs to the people. They instituted it for their own welfare. They are the rulers. There is no constitutional barrier to the building of roads. The same clause in the Constitution that authorizes the establishment of post-offices authorizes the establishment of post-roads. These two constitutional bestowments are coordinate branches created for the accomplishment of the same great end, that is, the convenience and happiness of the people. But aside from the necessity of building good highways for the better distribution of the mails through rural districts, it should be borne in mind that the agricultural classes, while doing more to sustain the credit of the Government and the financial strength of its people than all other classes combined, have had the smallest appropriations made for their immediate benefit. The urban population have long been provided, at the expense of the Government, with messengers for the delivery of mail. The shipping interests have had the harbors and rivers improved to expedite their business. The cities have been provided with post-office buildings, the architectural beauty and cost of which surpass those of any other Nation. Railroads have made use of the credit of the Government. Ironmasters have depended upon the Government to construct great locks and dams for facilitating the assembling of the materials at cheap rates for making iron.

The tariff laws have been shaped to benefit the manufacturers. No sane man objects to the majority of such appropriations. They are needed to foster and increase the commerce of the Nation. But are they more important to the great mass of citizens than good roads through the country? Such roads cheapen food and clothing, extend trade, make many commodities valuable that are valueless without them, save time, and, indeed, improve the opportunities of every citizen, whether he lives in the town or country or is a sailor on the wide ocean. Good roads through the rural districts would relieve the congestion of population in the great cities. Country life, with its moral influences, would be made attractive and pleasant. The dens of vice in the cities would be deprived of much of their malign influence. Homes would be sought after by thousands who now live in squalor in tenement houses in the cities. In short, through Government aid in the establishment of good roads, every phase and every feature of business, social, and educational life would be immeasurably advanced.

Now, gentlemen, I want to say one or two things here that I believe ought to interest every man, woman, and child in the United States. Do you know that the only people in the United States who are not interested in good roads are those who do not use roads, the inmates of the penitentiaries and of the lunatic asylums? Everybody else, every man, woman, and child, is interested in good roads. Can you name any other one thing that is so universally used as roads?

Senator DOLLIVER. Do you not find the roads in Ohio pretty good?

Mr. KILLEBREW. Some of them. Around Columbus they are pretty good, but I have seen the worst roads in the world in Ohio. I have seen roads in Ohio, in a back district, where a yoke of oxen could not pull an empty wagon. I have been through that State, and I know

the facts. I have studied the roads in every State. I know that in Tennessee we have as good roads in certain parts of the State as in any place in the world. But our people want the sympathy and support of the Government in order to encourage our local legislatures to add to the money necessary to build good roads.

I am sure that I voice the sentiment of every farmer in the United States, when the subject is presented to him, when I say that there is nothing the Congress of the United States can do that will be of greater benefit to this Government which we all love, than to help us build good roads. I do not see why you should appropriate large sums of money to improve navigable waters and harbors and yet not aid in the building of good roads. One hundred and ninety-seven million acres of the public domain have been given to railroads.

Now, gentlemen, here is a fact. There are railroads enough in the United States to give fifteen miles for every fifteen miles square of our territory; but of the common roads of the country there is only one per cent macadamized.

We have been working at road building through States and through counties for one hundred years. Gentlemen, we are just like Sisyphus. We roll up the stone every summer and it rolls down again. Capitalize the amount that we waste in that way and it will be equal to two thousand million dollars, which the farmers are paying interest on.

STATEMENT OF GEORGE W. COOLEY, OF MINNESOTA.

Mr. HARPER. Mr. Cooley, of Minnesota, will now address the committee.

Mr. COOLEY. Mr. Chairman and gentlemen, the arguments which have preceded me seem to be so terse and so to the point that I do not believe it will be necessary for me to advance further ones.

I come here to tell you how our people in the Northwest feel in regard to this matter. For the past year, for the past six months at any rate, the matter has been pending, and I have taken occasion to observe the sentiment of our people throughout the Northwest from the Mississippi River to the Pacific coast. I have in my office at home a number of letters from nearly every good-roads association in the Northwest, and not only that, but from the men who are interested in the subject of good roads throughout that entire country, and I find that the sentiment is unanimously in favor of State and National aid.

We have been trying in some of our States in the Northwest to get State aid for a number of years. So far we have failed, but we will soon be successful, and we want the cooperation of the National Government, not only because there is some money in it for us, which will help us to build our roads, but because we want your cooperation and sympathy.

Senator DOLIVER. Will you be satisfied if the Government simply furnishes the plans and specifications?

Mr. COOLEY. No, sir; we would not. We are not here making that request. We expect to be assisted also by appropriations. But we do not ask you to put all the money that is needed. We simply ask you to contribute while we contribute an equal amount. We are perfectly willing to do that, and the sentiment of our people is unanimously in favor of it.

A short time before I came away I met the commercial clubs of Minneapolis and St. Paul, representing the business and material interests of nine-tenths of the State of Minnesota. I asked their cooperation in presenting to this committee a series of resolutions indorsing some bill in favor of National aid. I have in my pocket now a series of resolutions adopted by the Commercial Club of St. Paul. I received by wire last night a message stating that the Commercial Club of Minneapolis has also indorsed the measure. With these assurances from the representative interests of a large portion of the State of Minnesota and a large majority of the people whom I know and have confidence in throughout the Northwest, I feel confident in saying to you, gentlemen, that our people feel that they are entitled to this aid.

Senator DOLLIVER. How much?

Mr. COOLEY. We have asked for \$24,000,000. That is what the bill provides. It is only \$8,000,000 the first year.

Senator DOLLIVER. How is it to be distributed?

Mr. COOLEY. It is to be distributed among the States in proportion to population.

Senator DOLLIVER. How much would Minnesota get?

Mr. COOLEY. Minnesota would get \$508,000 in three years. Of course we are to expend much more than that on our roads. We would add to it an equal amount, provided our legislature passes the bill. We would put an equal amount against the amount that the Government gives.

Senator FOSTER, of Washington. How much would the State of New York get?

Mr. COOLEY. Two million one hundred thousand dollars.

Mr. HARPER. That covers a period of three years.

Senator LATIMER. State to the committee why Congress should do this instead of the States.

Senator DOLLIVER. That is the point I should like to get at.

Mr. COOLEY. Congress should do it because it is a fair business proposition and because we will receive an income. This amount, you will understand, is largely in excess of what could be obtained from putting the same money out at interest. Congress should do it because you have given to the entire Northwest a system of transcontinental highways, costing hundreds of millions of dollars, which first developed the great territory represented by the Louisiana Purchase and the Lewis and Clark discovery and brought it from the condition of a howling wilderness to well-settled communities with farms and schools, whereby all the people are benefited.

You have given us a system of rural free delivery in many parts of the West. Why not supplement that by good roads so that the carriers can make 10 or 15 miles a day more than they do now? I have been informed that through a large portion of the State of Minnesota it is very difficult for the carriers to go over 25 miles a day; but that in the portion of the State where we have improved the roads they can make from 10 to 15 miles more without half trying. The carriers, whose routes lie over bad roads, are before the proper Department now asking for an increase of wages, and I do not blame them.

Senator DOLLIVER. How do you overcome a proposition like this: The State of New York has financial resources vastly out of proportion to its population. The financial resources are so large that the

budget of the city of New York, for example, is almost national in its size. Now, why should Minnesota go into a pool with the State of New York?

Mr. COOLEY. Minnesota is able to run this thing independently of any other State.

Senator DOLLIVER. But your scheme includes every State; those that have bad roads and those that have been diligent in road making, like the State of Ohio. I have driven over central Ohio, where the roads were all improved. Somebody has put in a lot of money there to do that work. Why should the Government treat the whole country as if nobody had done anything at all?

Mr. HARPER. Will you let me answer that question?

Mr. COOLEY. Certainly.

Mr. HARPER. It is because this money comes from all the States. A State that is more densely populated pays into the United States Treasury more in proportion to its area than a sparsely settled State. Take my own State of Iowa. We would get between \$600,000 and \$700,000.

Senator FOSTER, of Washington. Is there any way to distribute the money other than by population?

Mr. HARPER. There appears to be no fairer way.

Senator DOLLIVER. Take the State of Iowa. Of course it is our fortune rather than our merit that the State is level, and the proposition of producing this ideal result is very much simpler where the ground is level than in a State where there are hills, valleys, mountains, and all sorts of trouble to get over.

Mr. COOLEY. But you have not the material there for good roads.

Senator LATIMER. Would not one answer to the proposition you make be this? Take the city of New York, which pays into the Federal Treasury more taxes than any three of the Southern States. It would contribute to this general fund that goes out to all the States in larger proportion than any of the States would contribute. It would give an increased proportion. Should not that State, therefore, receive National aid in proportion to its population?

Senator DOLLIVER. You do not count the revenues collected at the port of New York, but what is paid by that town.

Senator LATIMER. I refer to consumption in the city of New York of imported goods that come into the United States and are consumed. If the amount of importations should be increased would not the amount be increased that the Treasury would receive?

Senator FOSTER, of Washington. It could not be distributed according to the size of the State?

Mr. HARPER. No; because then Texas, for instance, with its enormous area would get an unfairly large proportion.

STATEMENT OF LEWIS M. HAUPT, OF PENNSYLVANIA.

Mr. HARPER. Now, gentlemen, shall we proceed? I will ask Prof. Lewis M. Haupt, of Philadelphia, member of the Isthmian Canal Commission, to address the committee briefly.

Mr. HAUPT. Mr. Chairman and gentlemen of the committee, I deem it a great honor to have the privilege of saying a few words to you in behalf of good roads. After so much has been ably said it seems to

me that there is very little left to be added; but I wish to emphasize what has been so ably put to you in behalf of this measure.

I realize that the question which will arise in your minds will be as to what justification there may be on your part for making so large an appropriation for the improvement of highways, and it is in reference especially to that point that I will confine my few remarks.

The Senator has just asked a question which brings up the point why the manufacturing plants and the bulk of the population are in certain places. I will say that they are there because they believe they can get the material at those points much more cheaply and readily than in other places. In order that the manufacturing plants and industries of this country may thrive, it is absolutely necessary that they shall get their raw material at the lowest possible cost. That cost is composed of two elements, the cost of production and the cost of transportation, and the greatest waste in the cost of transportation is the expense of getting the material from the mine or the farm or the mill to the railroad in order that it may have the benefit of that cheaper method of transportation.

I wish to call your attention also to the fact that railroad corporations, private corporations, in this country have found it profitable to enter into large combinations for the purpose of building highways of steel, in order that they may move their freight at a low rate. The relative rates have been stated here as being about three-fourths of a cent per ton per mile on an average over all the railroads of the United States. In some places the rate is as low as 4 mills per ton per mile, while on the common roads in an unimproved condition it is 25 cents per ton per mile. In some instances the haulage of freight has cost \$1 per ton per mile and in some instances it is not possible to move it at all. The result of that condition is that in certain seasons of the year the railroad plants are tied up and unable to move the freight under any consideration, and are not able to utilize their full plants to the largest extent. At other seasons they are overcharged and engorged with traffic which they can not handle, resulting in delays and losses.

The improvement of the common roads will relieve all these conditions. It is not, therefore, a local question; it is not even a National question, but it is an international question. We must get the leading products of this great country, as far as possible, to foreign markets, and to do this we must provide these avenues for the rapid and cheap transportation of the material.

I may state to you that the aggregate tonnage of the railroads at the present time—we have over 203,000 miles—amounts to, say, 1,000,000,000 tons, and the cost of moving that, every article of freight to be hauled first by wagon for delivery to the railroad and from the railroad to the consumer, if it be only one mile, on an average of 25 cents represents an annual expense of \$250,000,000, and more as the distance increases. By improving our highways in such a way as to make them feeders to the railroads and thus relieve this engorgement there could be saved at least half that amount of money.

There is the further point, gentlemen, that this traffic is increasing at an enormous rate. But twenty years ago the railroad tonnage was only one-half what it is to-day. Twenty years from now it may be again doubled. So this engorgement, unless relieved, and relieved immediately, must go on increasing for all time, and the amount of

money which the people are absolutely wasting by a failure to improve the public highways of the country will run into hundreds of millions of dollars.

The State of Pennsylvania, which I happen to represent, has recently passed a good roads law, and has appropriated \$6,000,000 for that purpose, realizing the necessity of doing something to relieve the congested condition of transportation. The problem is one of economic transportation.

I hope very sincerely, gentlemen, that you will appreciate the responsibility and the opportunity which are given to aid the country in developing itself and in improving the condition of the highways, in stimulating the growth of manufacturing plants, enabling us to win in foreign markets, and in distributing our excess of products and serving the people of the country in a multitude of other ways.

I think there is nothing further that I need say in this connection. I thank you very sincerely.

STATEMENT OF H. P. GILLETTE, OF NEW YORK.

Mr. HARPER. I will ask the committee to listen to but one more address—that of Mr. Gillette, of New York. Then we will thank you for your very kind and courteous attention.

Senator DOLLIVER. I suggest that the necessity of roads has been very ably presented, and we should like to have a little discussion upon the question why, if the people are in such dire need of better roads, we can not have the old system on which our Government seems to have been founded, of allowing the communities to maintain the highways and the sanitation and those little matters of domestic economy which constitute, after all, the most of our public business. Why can not this great movement be directed toward an exhortation to townships and communities and States to take hold of this matter?

Mr. GILLETTE. Mr. Chairman, if you will permit me, I will try to answer Senator Dolliver. I happen to have been in the road-constructing business since 1891 as an engineer, and I have studied the economics of transportation. I have also, I think, read most of the literature that these gentlemen have so ably presented. But there is one reason that I think has been overlooked. It is assumed that the farmer in his local community should build the roads. I think that assumption is based upon a false theory. It would be just as logical to assume that a drayman in a city should build the pavement. The drayman is the servant of the people for whom he hauls. The farmer is the servant of the people for whom he hauls.

The farmer has been required to build the roads, but he has not built them. If the drayman had been required to build the pavements in the city he would not have built them.

Senator DOLLIVER. But the citizens in the city have been compelled to build them.

Mr. GILLETTE. One of the gentlemen of the committee asked a moment ago whether the farmers are in favor of this measure. I will state briefly what the New York State farmers have done and I will point out why road building under the State-aid law will stop ultimately. There have been 300 miles of road built in the State of New York under State aid. There are now petitions for 4,200 miles of roads under State aid. At the present rate it will take thirty years to

build those 4,200 miles, and when built they will be only a drop in the bucket in the State of New York. The citizens of the cities are, I believe, heartily in favor of the roads.

Senator DOLLIVER. Then what sort of an exhibition will this appropriation of \$24,000,000 make in the United States?

Mr. GILLETTE. It will be just a good starter.

Mr. HARPER. We must make a beginning.

Mr. GILLETTE. It is only a drop in the bucket, but you have got to make a beginning.

I pass to New Jersey, where the State has aided in building something like a thousand miles of road.

Senator FOSTER, of Washington. What do the roads cost?

Mr. GILLETTE. In the State of New Jersey, \$5,500 a mile for a macadam road. That is somewhat cheaper than in New York or Massachusetts, and I think it is largely due to a difference in specifications and somewhat to a difference in local conditions. It may be set down, I think, that a macadam road 16 feet wide and 6 inches deep can be built on an average for \$5,000 a mile, a gravel road for about \$3,000, and good roads for a local district where the travel is not hard enough to wear them out rapidly can be built for something like \$1,000, and in certain cases roads can be graveled or oiled for a few hundred dollars a mile, as in California.

The State of New Jersey is a good example of how far the road movement in a State will go and then stop. They have built the roads that enter into the main cities, but there are farmers who are situated at some distance from market, in a community not so thickly settled, and there they are not able to build a good road with only 33 $\frac{1}{3}$ per cent aid from the State. If the National Government comes in with 50 per cent aid and the State gives the remaining 50 per cent, the farmer's share becomes less than one-quarter of the direct tax; that is, if the State is districted, as is the case in very many States. We in New York State would get a dollar from the State and we would get a dollar from the National Government. That is \$2, and the individuals along the highway would have to pay, according to the State law, only about 15 per cent, or 30 cents, for every \$2 of road-construction cost, and that in turn would be distributed among the residents in the district, so that not merely the man who lives on the road pays. I think the most obnoxious system which ever existed in cities, as well as in districts, is to make the man who lives on the road pay for it. It is just the same as if every man on a street were required to pave the city streets.

Senator LATIMER. I wish to ask a question there, and let us see if you can give some light on it. If road improvement is of such great necessity to the people that all the States should combine to build the roads, why not have each State build its own roads? I want to have some information right on that point. Why do you come to the Federal Government for aid?

Mr. GILLETTE. For the reason I have just stated, that the cities are the ones in essence that use the roads. The farmer is merely the party who feeds the city. Cities can not exist without railroads, and in turn the railroads are dependent upon the roads. The citizen of a city, if he is wide awake, is the most anxious man in the world for roads, because he benefits by them. Therefore he should share in the tax, and he is willing to share in the tax.

There are a few farmers in the District of Columbia, and I may speak

now from experience in Washington and New York, who oppose road work because they think they can not pay their tax in cash. The sum and substance of their opposition is that they do not like a cash tax.

But what do they find out when they begin to build roads? I speak now as a road builder. They find that half the cost of roads is the cost of the teaming. As a road builder you have to haul broken stone, you have to haul water to puddle the screenings, and you have to haul with wagons all the supplies for the crusher and the roller. The use of his team is worth \$4 a day, and the farmer thus earns his tax by hiring his team to the contractor. When the farmer finds he can pay his tax back with his team he becomes the most enthusiastic advocate of road building in the country.

In some districts the farmers object to a cash tax until they see the result. There is no denying that some farmers have objected and do object to a cash tax. I say from experience in New York and Washington, where I have worked as an engineering contractor, the result is that the farmers are unanimously in favor of State aid as soon as they see a few roads built under such a law. But bear in mind, State-aid work will stop with the roads that lead into the cities, because the farmers can not afford to build roads in thinly settled districts. They need support. The National Government is the one to give that support and aid.

ADDITIONAL STATEMENT OF THOMAS G. HARPER.

The CHAIRMAN. These statements have been very interesting. Some figures have been given. I should like to ask if you have prepared any statistics as to the methods in other countries or any statistics bearing upon this matter?

Mr. HARPER. Nothing except as to the cost of transportation, showing the difference between the cost of transportation over dirt roads and the cost of transportation over improved roads.

The CHAIRMAN. Would it not be well that you should submit a table of statistics, as fully as can be given, showing the cost, and what has been done in the different States, and the laws of different States? I do not know but that there is some publication which gives those statistics. I think it would be well also to state what has been the custom in foreign countries, how much the governments have contributed, and how much has been contributed by localities. All those points must be easily obtained, but it requires some care to bring them together. Of course the authority should be given on which the figures are based.

Mr. HARPER. I will call the attention of the chairman to the fact that the Road Inquiry Office of the Agricultural Department has those statistics, I presume, and we shall be glad to submit them to the committee in connection with what has here been said.

The CHAIRMAN. You think that those reports give those figures quite fully?

Mr. HARPER. I am not advised so as to speak fully on that subject, Mr. Chairman, but that is one purpose of the Office.

The CHAIRMAN. I noticed that several speakers gave figures, and I suppose they know where they got them.

Mr. HARPER. Yes, sir.

The CHAIRMAN. If presented in a suitable form we could refer to them readily.

Mr. HARPER. Take the matter of the construction of roads; the cost of construction will differ of course in different localities, depending entirely on the accessibility of the material used as a road covering. I have in mind Dixon, Lee County, Ill., across the river some way from my home. They have at Dixon, Ill., the county seat of that county some 65 miles leading out in all directions from the county seat that are macadamized. There are two classes of roads, one 18 feet wide and the other 10 feet wide. The 18-foot road, made of Genesee limestone crushed, costs \$2,400 a mile, and that includes the preparing of the roadbed for the reception of the macadam. The 10-foot road costs \$1,300 a mile. In making the roads that wide it leaves a dirt road to be used when the dirt road is good, and it gives a stone road sufficiently wide for two vehicles to pass when the dirt roads are impassable.

Senator QUARLES. What provision have you in your scheme for determining, for instance, in the State of Iowa, where the first road should be built?

Mr. HARPER. That is a matter of detail which we do not undertake to work out.

Senator QUARLES. It is a matter, it seems to me, of very great importance. Your scheme involves taxation?

Mr. HARPER. Yes, sir.

Senator QUARLES. If you make 200 miles of this macadam road in the northern part of Iowa those who live in the southern part of Iowa and who do not use that road at all would be taxed for its construction?

Mr. HARPER. Yes.

Senator QUARLES. I can readily see that under that state of facts there would be great dissatisfaction in the southern part of Iowa unless that part of the State could derive some benefit from it.

Senator LATIMER. There is a proposition in most of the States to elect or appoint a highway commission to cooperate with the commission or bureau here. Then there will be local officials in each county. The location of the roads will be left entirely with that commission, as to where it shall be constructed, and on what plan.

Mr. HARPER. I might answer your question in another way and give you some idea as to how we get at our road fund. The assessed valuation of our farms in Iowa is \$400,000,000. That would yield, if we assessed to the maximum limit of our law, over two million dollars of road fund. But the wisdom of our law is that we leave the matter of how much road fund we shall assess to the township trustee. He meets with all the other township trustees in the county in April, and they declare what they shall levy—what rate per dollar.

The experience in Iowa, in almost all the counties, is that they come in and declare that it is necessary to levy 1 mill. That is the minimum. Instead of the full limit for road purposes they levy the minimum. Then the board of supervisors of the county have a right under the law to levy 1 more mill. Now, if we had the entire 5 mills, which would add about a dollar and a quarter for every 160 acres in the State of Iowa, we would have over \$2,000,000 to put upon our roads.

In answer to the question put by Senator Quarles sometime ago, I will say that if any automobile concern will come to Iowa and improve our roads we will be awfully glad of it.

Senator QUARLES. The practical point I wanted to bring out is this:

Here you have three jurisdictions—the Federal Government, that is going to control, the State government, and the local government.

Mr. HARPER. And there are the abutting property owners—four.

Senator QUARLES. Yes; four. How are you going to distribute those several jurisdictions so as to have no conflict or hostility?

Mr. HARPER. We propose to do that in this way: We propose that the State in all its departments shall contribute a dollar against every dollar that you give us.

Senator QUARLES. I mean in practical administration?

Mr. W. A. WALKER, of Racine, Wis. In answer to the question how and where are we going to begin, I will state that we are going to begin where and when the local community first begins and says it is ready to contribute its part. The local community can not participate either in State or National aid until it is ready to do its part. Then it can get its per capita portion of both State and National aid. Does that answer your question?

Senator QUARLES. Yes, sir.

Mr. GILLETTE. I wish to announce a fact which may be of interest, that the assembly of New York State yesterday passed a resolution favoring National aid for road building throughout the country, and it voices, I think, the sentiment in the great State of New York, where we have built many State roads. The resolution was passed by a unanimous vote. There was no opposition whatever to it.

Senator DOLLIVER. We suspect here a proposition that goes through unanimously. [Laughter.]

Mr. GILLETTE. You might suspect it, but you will have to pay attention to it.

Senator LATIMER. I move that the gentlemen composing the committee who appeared before us to-day be requested to file short briefs upon this subject for publication. If we put them into a public document I think we shall get a great deal of information that we probably will not get in the way of short speeches.

Senator DOLLIVER. Your motion is that in addition to the oral hearings they shall file written statements?

Senator LATIMER. Yes, sir; I make that motion.

The CHAIRMAN. If there is no objection it will be so ordered.

Mr. HARPER. Will you fix a limit to the filing of the briefs?

Senator DOLLIVER. It had better be done within thirty days.

The CHAIRMAN. Yes, and they had better be as concise and brief as possible, because people will not read them if they are lengthy.

You were speaking about working out taxes by labor. There is a great difference probably in the laws of different States. In my State that is a custom which has gone by years and years ago. It has been a money tax for a great many years.

Senator QUARLES. The farmers always oppose that, and we have never been able to get it.

Mr. HARPER. Now, gentlemen, we have imposed upon your good nature, I am sure.

The CHAIRMAN. We have been very much pleased to hear you.

Mr. HARPER. We wanted to meet you. We wanted you to see that we come from the people. We are of the people whom you represent.

The CHAIRMAN. I am sure the committee agree with me that we are all glad to see you and to hear from you, and your case has been presented very intelligently.

Senator QUARLES. And very ably.

The CHAIRMAN. And effectively.

Mr. HARPER. I thank you, gentlemen. We leave the matter now in your hands, and we have a feeling that you will do what is right in the matter.

Mr. LOUIS F. SCHADE. Mr. Chairman, in behalf of the Dranesville District Good Roads Association of Herndon, Fairfax County, Va., I desire to serve notice upon this honorable committee that we shall at some future time avail ourselves of the opportunity to set forth in a brief our views on this proposed legislation.

The CHAIRMAN. You have that privilege and may do so.

Representative BROWNLOW. I understand my bill came up for consideration in your State legislature. Is this true?

Mr. SCHADE. Yes, sir; it was favorably discussed.

BRIEF SUBMITTED BY SUBCOMMITTEE OF THE NATIONAL GOOD ROADS ASSOCIATION.

The chairman and members of Committee on Agriculture of the United States Senate:

GENTLEMEN: The National Good Roads Association, in convention assembled at St. Louis, Mo., April 27, 28, and 29, 1903, adopted the following resolutions:

Be it resolved by the National Good Roads Convention, assembled in St. Louis, Mo., April 27, 28, and 29, 1903:

1. That the building of good roads in the United States is of paramount importance to national prosperity and commercial supremacy.

2. That we indorse the work of the office of public road inquiries of the United States Department of Agriculture for the betterment of the public highways of the country; and we believe this office should be enlarged into a bureau of the Department of Agriculture, with sufficient appropriations at its disposal to extend its work into all the States, and that we especially urge the Senators and Representatives in Congress to vote for such increased appropriation.

3. That the greatest progress in the improvement of the public highways has been made in the States which have adopted the principle of State and local cooperation, and consequently this convention declares itself in favor of State aid in the improvement of the public highways.

4. That we believe the appropriations heretofore made by the National Government for the building of railroads and canals and the improvement of rivers and harbors have been wise and beneficent; but that we also believe a Federal appropriation for the improvement of our common highways has now become necessary to extend the blessings of intelligence, to promote a high order of citizenship among all classes of people, and to meet the ever-growing necessities of the agricultural classes. We therefore demand, in justice to the agricultural classes, Federal appropriations to aid in highway construction, as provided for in the Brownlow bill, and we recommend the harmonious cooperation of the township, county, State, and National governments in the furtherance of road improvement.

5. That this resolution favoring National aid be presented to the Congress of the United States by a committee composed of one person from each State of the Union, to be selected by the secretary of the National Good Roads Association, who shall also arrange the date and place of meeting in Washington, D. C., and for the presentation of said resolutions by the said committee to the committees of Congress having charge of the bill, provided that representatives of the leading commercial and industrial organizations interested in highway improvement may be included in said committee, to be selected in like manner.

As provided in these resolutions, a committee composed of one person from each State, and representatives from certain collateral asso-

ciations, as provided in said resolutions, met at Washington, D. C., January 25, 1904, and on the following day laid said resolutions before you, as directed. Certain oral and written arguments were also offered.

During its deliberations at Washington this committee appointed the undersigned as a subcommittee to prepare and submit a brief, setting forth the views of the association on the subject of Federal aid or cooperation with the States and localities in highway improvement.

The sentiment for aid by the Government in the building of good roads is increasing every day. It prevails in every section and State. The sentiment is found in every intelligent class and community. Lawyers, engineers, business men, railroad men, statesmen, and farmers all favor it. It is destined to sweep the country.

This question appeals to all classes and to all interests. Its proper solution will do more for the great masses than any other one thing.

At the meeting of the national association at St. Louis, in April, 1903, Hon. Theodore Roosevelt, President of the United States, in his address before that body said:

Mr. CHAIRMAN, LADIES, AND GENTLEMEN: When we wish to use descriptive adjectives fit to characterize great empires and the men who those empires great, invariably one of the adjectives used is to signify that that empire built good roads. [Applause.] When we speak of the Romans, we speak of them as rulers, as conquerors, as administrators, as road builders.

There were empires that rose overnight and fell overnight; empires whose influence was absolutely evanescent, which passed away without leaving a trace of their former existence; but wherever the Roman established his rule, the traces of that rule remain deep to-day, stamped on the language and customs of the people, and stamped in tangible form upon the soil itself.

Passing through Britain fifteen centuries after the dominion of Rome has passed away, the Roman roads as features still remain. Going through Italy, where power after power has risen and flowered and vanished since the days when the temporal dominion of the Roman emperors transferred its seat from Rome to Constantinople; going through Italy after the Lombard, the Goth, the Byzantine, and all the peoples of the Middle Ages have ruled that country, it is the imperishable Roman road that reappears. The habit of road building marks in a Nation those solid, stable qualities which tell for permanent greatness.

RIGHT TO DEMAND GOOD ROADS.

Merely from the standpoint of historical analogy, we should have a right to ask that this people which has tamed a continent, which has built up a country with a continent for its base, which boasts itself with truth as the mightiest Republic that the world has ever seen, which we firmly believe will in the century now opening rise to a position of headship and leadership such as no other nation has ever yet attained [applause], merely from historical analogy, I say, we should have a right to demand that such a nation build good roads. [Applause.]

Much more have we a right to demand it from the practical standpoint. The difference between the semibarbarism of the Middle Ages and the civilization which succeeded it was the difference between poor and good means of communication. And we, to whom space is less of an obstacle than ever before in the history of any nation, we who have spanned a continent, who have thrust our border westward in the course of a century and a quarter until it has gone from the Atlantic over the Alleghanies, down into the valley of the Mississippi, across the Great Plains, over the Rockies to where the Golden Gate lets through the long-heaving waters of the Pacific, and, finally, to Alaska and the Arctic regions; to the islands of the Orient, the tropic isles of the sea; we, who take so little account of mere space, must see to it that the best means of nullifying the existence of space are at our command.

RAILROADS NO SUBSTITUTE.

Of course during the last century there has been altogether phenomenal growth in one kind of road wholly unknown to the people of old—the iron road. The railway is, of course, something purely modern. Now, a great many excellent people have proceeded upon the assumption that, somehow or other, having good railways is a substitute for having good highways—good ordinary roads. A more untenable

position can not be imagined. [Applause.] What the railroad does is to develop the country, and, of course, its development implies that the country will need more and better roads. [Applause.]

A few years ago it was a matter, I am tempted to say, of National humiliation that there should be so little attention paid to our roads, that there should be a willingness not merely to refrain from making good roads, but to let the roads that were in existence become worse; and I can not too heartily congratulate our people upon the existence of a body such as this, ramifying into every section of the country, having its communications in every State of the country, and bent upon this eminently practical work of making the conditions of life easier and better for the people who of all others we can least afford to see grow discontented with their lot in life—the people who live in the country districts. [Applause.]

INDUSTRIAL DEVELOPMENT.

The excessive, the wholly unheard of rate of our industrial development during the past seventy-five years, together with the good sides has had some evil sides. It is a fine thing to see our cities built up, but not at the expense of the country districts. [Applause.] The healthy thing is to see the building up of both the city and the country. But we can not expect the best, the most eager, the most ambitious young men to stay in the country, to stay on the farm, unless they have certain advantages. If farm life is a life of isolation and mental poverty, a life in which it is a matter of great difficulty for one man to communicate with his neighbor, you can rest assured that there will be a tendency to leave it on the part of those very people whom we should most wish to see stay on the farm.

It is a good thing to encourage in every way any tendency to check an unhealthy flow from the country to the city. [Applause.] There are several tendencies in evidence. The growth of electricity as applied to means of transportation tends to a certain degree to exercise a centrifugal force to offset the centripetal force of steam. Exactly as the uses of steam have tended to gather men into masses, so now electricity, as applied to transportation, has tended to scatter them out again. Trolley lines running out into the country are doing a great deal to render it possible to live in the country and yet not lose the advantages of the town. The telephone is not to be minimized as an instrument with a tendency in the same direction. But no one thing can do as much to offset the tendency toward an unhealthy trend from the country into the city as the making and keeping of good roads.

EFFECTS OF GOOD ROADS.

They are needed for the sake of their effects upon the industrial conditions of the country districts, and I am almost tempted to say that they are needed even more for their effect upon the social conditions of the country. If winter means to the average farmer the existence of a long line of liquid morasses, through which he has to move his goods if bent on business, or to wade or swim if bent on pleasure; if winter means that if an ordinary rain comes the farmer's girl or boy can not use his or her bicycle, if a little heavy water means a stoppage of all communication, why, you have got to expect that there will be a great many young people of both sexes who won't find farm life attractive.

It is for this reason, among many others, that I feel the work you are doing is so preeminently one for the interest of the Nation as a whole. I congratulate you upon the fact that you are doing it. In our American life it would be hard to overestimate the amount of good that has been accomplished by associations of individuals who have gathered together to work for a common object which was to be of benefit to the community as a whole. And among all the excellent objects for which men and women combine to work to-day there are few, indeed, who have a better right to command the energies of those engaged in the movement and the hearty sympathy and support of those outside than this movement in which you are engaged.

There is no use in making an argument as to the value of good roads. They economize time, labor, and money; save worry, waste, and force; they aid the social and religious advancement of the people; they increase the value of property, and aid every avocation, and especially that of agriculture; they mean the ability at all times to move a maximum burden at a minimum cost; they permit the transportation of marketable products during bad weather when no work can be done on the farm; they save the wear and tear on horses, drivers, harness, and

wagons. Good roads are the avenues of progress; the best proof of intelligence; the ligaments that bind the country together in the bonds of patriotism and thrift; they are the woof of sentiment woven into the great web of our civilization; they are to the body politic what the venous system is to the human body. Without it stagnation and decay follow; with it all forms of growth, strength, and beauty prevail. Good roads are the initial fountains of commerce, the rivulets that swell the great streams that flow out of every country and distribute the products of our fields, factories, forests, and mines. They will do more to extend trade and commerce of the country; will add more to the happiness, intelligence, and prosperity of the people, and will contribute more to their social elevation and moral strength than any other material thing whatever.

The amount of time saved in the domestic commerce over and above that now expended on these detestable highways of the country will go far toward educating the people of the United States. It is estimated that every time the sun sets the people of the United States, by reason of the defective and execrable roads, have lost more than \$1,500,000. The internal commerce of the country amounts to twenty billions, which is equal to the international commerce of the world. The agricultural products make over 62 per cent of this, thus swelling the commerce of the country more than all other products combined. Nearly all of this vast traffic has to pass over public roads to reach the railroad stations, waterways, or markets.

The appropriation for our rivers and harbors made by the last Congress was \$32,540,199.50. If this amount had been expended in the improvement of our public roads there would not have been a citizen of the United States who would not feel and enjoy the results of it. The Government of the United States has never failed to respond to the demands for the improvement of rivers and harbors, but has laid out millions in that behalf. No one objects to this. It is a proper expenditure to develop the great material interests of the country, but this expenditure is necessarily limited in its scope and benefits.

The benefits of the great harbors along the Atlantic seaboard and Gulf coast have cost the country hundreds of millions of dollars. All of these improvements are to be commended. The improvement of the various rivers for the past seven years, together with harbors, has been at an outlay of \$130,565,485, but not one dollar has been appropriated to aid the cultivators of the soil in carrying their products to the great highways of commerce.

It has been asserted by those who ought to know that 90 per cent of the revenues of the Government of the United States is spent in the great cities on public buildings, the construction of battle ships, in furnishing munitions of war, and for the improvement of rivers and harbors, but less than 10 per cent is spent in the country, although these people have furnished more than half the revenues of the Government. It is not right; it is not just.

Whatever makes for the agricultural prosperity and development of the country also aids other industries in the land. All classes rely upon good crops for prosperity. The banker, the manufacturer, the ironmaster, the lumberman, and even the professions feel the influence of good crops and the depressing effects of bad ones.

It has been estimated by men engaged in the road work, who have gone to much trouble to investigate every phase of the question, that

more than \$30,000,000 annually are literally wasted in the deplorable method or lack of method in the repair of country roads. Communities all over the country year after year spend money in this worthless method of improvement. This way of losing money has been going on ever since the settlement of the country, and while progress has been made in every other line, road mending in most districts seems to be where it was two hundred years ago. In fact, their failure to make progress is largely a matter of ignorance as to the proper materials to be used, the methods of using them, and how to get the means for doing it. If some such result as that here asked is brought about millions of dollars now wasted would be spent so that material benefits to the roads and the people would follow. Such a system continued would bring about a vast change in a very few years for the better in the conditions of the roads, and bring great benefits everywhere to the people of the country districts.

The economic benefits to be derived from systematic and scientific road construction is the saving of a large sum of money now spent on improper methods of repair and construction, together with much that would be saved in transportation by carriages, wagons, etc. Great as these benefits would be—and they are the ones which first appeal to the minds of most persons—there are other benefits to be derived from good roads throughout the country which can not be estimated in dollars and cents, but which are of infinitely greater importance and value. It is a perplexing problem now as to how to provide for the ever-increasing numbers in the already densely thronged cities. And this condition is becoming more and more a menace to our social institutions. Unquestionably the remedy is to make the country more attractive, to keep the people on the farm.

It has been said by able authority that a greater rate of insanity prevails among the women of the country than among any other class or sex. This is ascribed to their enforced isolation from their kind during winters and long wet seasons, which render dirt roads impassable for a large part of the year. If there were no other reason for Federal aid in this behalf the Government might well concern itself, so far as it may, in an earnest effort to remove the intolerable loneliness of rural life. Could it do better than to bring more sunshine and joy, more of all which tends to quicken the intellect and elevate the morals, more of the social blessings of our superb age into the homes and lives of these mothers, who are to leave their stamp upon the minds and hearts of the countless sons and daughters who are yet to do the world's work in every avenue of human endeavor in generations to come?

It is not contended that the National Government could, or that it would be expedient for it to attempt, road construction on all of the roads. What would be accomplished by national aid would be the organizing in the States themselves of systematic road work, with enough good roads built in every section as object lessons to incite the people to repair all the roads as they are needed in a similar manner, and to cooperate with them on an agreed basis in building in the best manner the more important roads.

It has already been proven in the instance of the few States which have inaugurated a system of State aid to road construction that this result will follow. These States now include Massachusetts, New Jersey, Connecticut, New York, and Pennsylvania. In Massachusetts

and New Jersey, where the work has been going on for over ten years, there may be seen what results are accomplished; and in both instances, where there has been a mile of State road constructed, there has been as much again of similar road construction carried on by local communities without assistance from the State.

The impetus given to proper construction and maintenance of highways all over the country by the pittance given the Agricultural Department, to be expended through the Office of Road Inquiries, is a profound argument for increased appropriation in that direction. It is believed that no money has been so well spent by the Government for any purpose nor with such grand results as have followed the work and administration of that office.

Many people affect to think that this question of national aid for good roads and local improvements is a new one. Far from it. What has been the practice of the Government? What are the facts? We find the first road which Congress authorized was from Cumberland, at the headwaters of the Potomac, which was built from 1811 to 1818, at a cost of \$7,000,000. The construction of this road was authorized by an act, March 29, 1806. The second road authorized was from the frontiers of Georgia to New Orleans. This was April 31, 1816. Another was from Nashville, Tenn., to Natchez, Miss. In eleven years 14 great highways were authorized to be built by Congress.

Long before the laws were passed authorizing the building of these roads an act was passed (April 30, 1802) to enable the people of a portion of the territory northwest of the Ohio River to form a constitution and State government, and it was provided that one-twentieth of the public lands lying within the territory might be sold and the proceeds applied to the laying out and making of public roads.

In 1850 the Government granted aid to railroads and made many surveys from the Mississippi to the Pacific coast under the direction of army officers. This suggests the idea that in times of profound peace the War Department might again aid in this great work. Later the Government subsidized the Union Pacific Railroad by a large grant of land which made that railroad a possibility. Other railroads have also been aided by the Government, including the Central Pacific, Northern Pacific, and Southern Pacific.^a

Rivers and harbors in all parts of the country have been made available as channels of commerce at the expenditure of many millions by the National Government, and nobody is objecting to these expenditures. They are wise and they are profitable to the people as a whole.

^a A Senator in a speech on this subject stated that the Government had contributed something like 200,000,000 acres of the public domain in the aid of our great transcontinental railway lines. Now, it is a fact that just as soon as these great gifts were made that the price of all lands inside the 10 or 20 mile limit was doubled, and that the preemptor who was charged \$1.25 per acre for his land outside such limits was obliged to pay \$2.50 inside. Who then paid for these land grants, or, in other words, who made this great gift to the railroad companies? Not the Government, but the people who settled the great West, including even the homesteader who received only one-half as much as those outside the limits. Possibly one-half of the total area inside the railroad limits was preempted at \$2.50 per acre, "double minimum price," so that the Western settler contributed something like \$125,000,000 to the scheme of the General Government toward opening up that portion of our country. It is not unreasonable that these people should ask a return of a small portion of this money for the development and improvement of the country roads in the western part of the country, but they do not ask that. They only ask that all people shall share alike in the benefits as proposed by the several measures now under consideration.

It may be seen from this that the question of Federal aid for internal improvements, such as road building and improvement of rivers and harbors, is by no means a new one. If there is any constitutional or economic reason why this aid may not now be extended to highways we do not know it.

But few judicial opinions have been rendered on this subject. In the case of Dickey against the Turnpike Company, reported in 7 Dana, Kentucky courts, it was held that the power given to Congress by the Constitution to establish post-roads enables them to make, repair, keep open, and improve post-roads when they shall deem the exercise of the power expedient. But in the exercise of the right of eminent domain on this subject the United States has no right to adopt and use roads, bridges, or ferries constructed and owned by the States, corporations, and individuals without their consent, or without making to the parties concerned just compensation, and if the United States elects to use such accommodations without the previous conditions, it stands upon the same footing and is subject to the same tolls and regulations as a private individual. Kent says this decision was supported by sound reasoning.

In his veto message on May 4, 1822, Mr. Monroe said that the evil that should be particularly avoided in the appropriation of money for internal improvements was the violation of State rights. Shunning that, he said it seems to be reasonable and proper that the powers of Congress should be so construed as that the General Government, in its intercourse with other nations and in our internal concerns, should be able to adopt all such measures lying within the fair scope and intended to facilitate the direct objects of its powers as the public welfare may require and a sound and provident policy dictates.

In discussing the power vested in Congress for the establishment of post-offices and post-roads, President Monroe said that in whatever sense the term "establish" is applied to post-offices, it must be applied in the same sense to post-roads. This would seem to settle the whole question, as the Government has long recognized the necessity of building post-offices, and therefore it should build post-roads, or at least aid in the work.

There are now something like 200,000 miles of roads used for the rural delivery of mails. This popular scheme of the Government has been in vogue less than nine years, and is destined certainly soon to prevail in every township throughout the whole country. Would it not be wisdom and economy for the nation to aid in properly constructing these ways? Is there any good reason why, by the use of automobiles or some similar improved device for travel over roads, the cost of delivering the mails and possibly larger post packages might not be wonderfully decreased and the benefits at the same time of this branch of the postal service to the rural sections be wonderfully increased?

The soils of our lands are the chief source of material wealth—the best heritage of future ages. Without it our magnificent civilization would decay and disappear. The United States and the States are spending annually hundreds of thousands of dollars (and could wisely spend more) in the employment of experts to study all questions relating to the use, waste, and conservation of soil fertility. The chief purpose of all this is to insure an abundance of food for man. Why should we continue to draw upon this fund of wealth, this great

necessity, to grow and maintain cheap horses to deliver rural mails at an approximate rate of 20 miles per day per horse, when automobiles would easily cover 60 miles per day? Why not so make the roads as to use these machines and convert this largely wasted fertility into meats, fruits, grains, etc., for man to the mutual profit of the consumer and producer?

It has been said that Jefferson was opposed to the appropriation of money for internal improvements, but in writing to Mr. Leiper in 1803, he said:

Give us peace until our revenues are liberated from debt, and then during peace we may chequer our whole country with canals, roads, etc.

Writing to J. W. Eppes in 1813, he says:

The fondest wish of my heart ever was that the surplus portion of these taxes destined for the payment of the Revolutionary debt should, when that object is accomplished, be continued by annual or biennial reenactments and applied in times of peace to the improvement of our country by canals, roads, and useful institutions, literary and others.

Congress has always claimed the power to lay out, construct, and improve post-roads with the assent of the States; also to open, construct, and improve military roads on like terms, and the right to cut canals through the several States, with their consent, for the purpose of securing internal commerce and for the safe and economical transportation of military stores in times of war, and leaving, in all cases, the right over the soil in the respective States. The President has sometimes objected to the exercise of this constitutional right, but Congress has never denied it.

In the inaugural of President Adams in 1825, he insisted that speculative scruples in regard to the constitutional right would be solved by the blessings resulting from the power and extent and limitation of the General Government in relation to this important interest to the satisfaction of all.

Cooley on Constitutional Law says:

Every road within a State, including railroads, canals, turnpiles, and navigable streams, existing or created within a State becomes a post-road, whenever, by law or by the action of the Post-Office Department, provision is made for the transportation of the mail upon it or over it. Many statesmen and jurists have contended that the power comprehends the laying out and constructing of any roads which Congress may deem proper and needful for the conveyance of the mails and the keeping of them in repair for the purpose.

Since Mr. Monroe's famous veto message, every point made by him has been overridden in the actual practice of the Government. Even admitting the validity of Mr. Monroe's argument that the appropriation of money for internal improvements is wrong, has not every Congress been making appropriations for such improvements? Can anyone say truthfully that great National highways that pass from State to State are local in their character? There is as much continuity in public roads as there is in the rivers or in the coast lines of the ocean. There is not now a member of Congress who might not, if he desired, have walked from his home to the Capitol without even leaving the country roads. With the building of powerful automobiles the radius of private conveyance will no doubt be extended into many States. Is there any force in the logic which makes it constitutionally consistent to make improvements for a private yacht to sail in a river passing through two or more States and inconsistent with the Constitution that

a road can not be improved over which a private automobile may pass from State to State? Why not use automobiles for carrying the mails, insuring greater certainty and economy?

It will be seen, therefore, that this is not a new question. It is true that many old politicians, whose conservatism we admire but whose wisdom we can not always respect, object to the appropriation by the General Government for the building of roads, because they say it is paternalism or extraconstitutional. If it is paternalism to build roads to facilitate the transportation of the mails, it is paternalism to deliver the mails. If it is paternalism to build post-roads, why is it not paternalism to build post-offices and harbors, or improve rivers, or to establish military or naval institutions?

Aside from the warrant which the Constitution gives for the construction of roads in the clause for the establishment of post-offices and post-roads, the general-welfare clause ought to be sufficient if there were no other constitutional provision. There is no other one thing that can be done by the Government that will add more to the general welfare of the people of this country than to assist in the building of roads. It is the one thing that everybody wants. Why the Congress of the United States should appropriate a million dollars for the construction and improvement of the highways of Porto Rico, and give another million of dollars for the same purpose in the Philippines, with a proposition from the War Department to give three millions additional to the Philippines, and yet hesitates to make liberal appropriation for the improvement and aid in building of public roads for the conveyance of the mail in that portion of the United States that pays the taxes, we do not understand.

Of all the civilized countries on earth this country has the poorest roads. The United States is regarded by the nations of the earth as the most powerful agent in ameliorating the condition of the people of the world. In all that is progressive, except in good roads, it stands first. In material wealth; in varied commerce; in the products of agriculture, meat, cotton, corn, wheat, tobacco; in the making of iron and steel; in timber resources and products; in the number of miles of railroads; in the credit and opulence of its cities; in the per capita wealth of its people, it stands supreme over every nation. It feeds and clothes by its products the largest part of mankind; its laws and its government are best calculated to insure happiness, to inspire the loyalty of the citizen, and to give prosperity and greatness to the country; and yet the prime producers of all this wealth and all this greatness have had less done for them than has been done for the same class in any other first-class country. The farmers have cheerfully done their full duty in bearing the burdens of government. In times of war they have ever been its strongest support and defense; in times of peace a never-failing source of sustenance and wealth. And yet it has not done for them what it has done for the iron master, for the coal miner, for the merchant, or for the manufacturer.

The United States finds itself in strange company in the matter of bad roads. No good roads are found among the savages, for they have but little to take to market. No good roads are found in Turkey, where the safety of property rests in its inaccessibility. No good roads are found in Russia, where civilization has not lifted its head above the broad sea of ignorance and superstition that spreads over the land and restricts production. But few good roads are found in

India, where famine and disease often carry away hundreds of thousands of people. No good roads are found in Mesopotamia and Caucasia, the seat of an old civilization and the cradle of the white race that now governs the world.

In many portions of this country the rural population alone are required to keep up the roads passing through the country. The English country people rose in arms in the eighteenth century because each parish was bound to repair the highways that pass through it from great cities to great cities. The peasant proprietors and the renters were forced to give their gratuitous labor to this work everywhere, and, if this was not sufficient to keep the roads in repair, hired labor was employed and the expense met by the parish. This was two hundred years ago, and yet the people of the United States stand now, for the most part, with reference to their roads, nearly where England stood then. We do not wish to be understood as objecting to the appropriation to improve the roads in Porto Rico or in the Philippine Islands, for we are quite certain that the Filipinos will never be pacified, conciliated, or civilized without good roads.

It is estimated that of all the roads in the United States there are only 5 per cent good, 10 per cent fairly passable, and 85 per cent bad, indifferent, execrable, indescribable, welters of mud and stallers of teams in wet weather, and the origin and creators of insufferable dust storms in dry weather. Fifteen per cent are roads, the remainder mere rights of way.

There are some things in the Old World from which we should draw instruction and wisdom. France has the best roads on earth, divided into four classes: (1) National, (2) departmental, (3) military, and (4) communal.

National roads are built and kept up by the national treasury; departmental roads are a charge upon the departments through which they pass; the military roads are usually kept up by the Government, but sometimes the Government is aided in this work by the departments through which the roads pass; the communal roads, like our civil district and township roads, are kept up by the communes, but even these receive assistance from the Government when they pass through thinly populated regions. The national roads are paved like a street and have an average width of $52\frac{1}{2}$ feet. The departmental roads are 39 feet wide, and the other roads vary in width. Not less than \$7,000,000 are annually expended by the French Government in making new roads and repairing old ones. This work gives employment to 35,000 persons, and the total length of the roads is something over 350,000 miles. The roads are so well constructed that one single man can keep 10 miles in repair if furnished with piles of broken stone, placed at intervals along the road, and a cart for distributing the stone. Every rut and hole, as fast as made, is filled.

The maintenance of roads in England is vested by Parliament in turnpike trusts and highway boards empowered to levy local rates on all property. The revenues raised for repairing and building roads is over £3,000,000 or \$15,000,000 a year. This is equivalent to over 40 cents an acre or over \$256 a square mile for all the territory in England and Wales. If the same amount was levied by the United States in proportion to area, excluding Alaska and our new possessions, it would amount to about \$77,000,000.

Now what are the great advantages of these good roads in France

and England? They are so numerous that time would fail to even mention them, but there is one that has not been mentioned in any discussion of the road question. A French farmer rarely carries his produce to market when he can work in the field. The time selected for doing this work is bad, rainy days or very cold days when no work can be done with the soil. At such times the little covered wagon is filled with produce. The farmer is able to draw three or four times as much to market as a farmer can in Iowa or Tennessee.

It is stated that it costs as much to deliver a bushel of grain 5 miles to the railroads in Illinois, as it then costs to carry it 1,100 miles to Buffalo. In West Virginia, in the tobacco region, it costs five times as much to deliver that product 8 miles over mud roads as it costs to carry it over 400 miles to Richmond, Va. It has been estimated that it requires ten days' hauling on an average for each farmer in the United States to carry his produce to market. The Twelfth Census reported 5,739,756 farms in the United States, the number of persons over ten years of age engaged in agriculture at 10,438,219. On the supposition that it takes ten days a year to deliver the products of each farm to market, it will be seen that in the aggregate there are over 57,000,000 days consumed in delivering the products of the farm to railroads or to market. If this work could be done at a time when no other work can be done on the farm and when the teams and men would be idle but for this work, it would show a saving of \$114,000,000 annually in delivering crops to market, allowing \$2 a day for man and team.

But this is not all; the increased tonnage that may be drawn over good roads with the same team, as compared with the tonnage carried over bad roads, will shorten the time now required for the work and will make another saving of half as much. So it may be set down as a fact that good roads would save in delivering produce to market not less than \$170,000,000. We make no mention of the wear and tear of wagons or the injury done to teams. We need not mention the losses occasioned by waste of time in going to and returning from the market places. We will not mention the difference in the amount of pleasure each one experiences in driving over good roads and in driving over bad ones. We need not mention to you the sociological effects of good roads. It is scarcely worth while to mention the largely increased value of farm properties when situated on good roads instead of bad ones, nor the facility with which children may reach the school-houses, nor the means which would be afforded in consolidating small and inferior schools into large graded ones. All these things would come as corollaries to good roads. We make the prediction that the successful introduction of instruction in agriculture in the common schools, however much it may be desired, will never obtain until the roads are improved. In fact, there is nothing more enjoyed than a good road. It is the common property of everybody; it is shared by all, it is needed by all, it benefits all.

We do not wish the Government to undertake to build all the roads throughout the United States, but to assist the local governments in that work; to give aid as it gave aid to railroads. We want to see competent engineers put in charge and paid well for their services. There should be no halfway work. This halfway work has been done in the greater part of this country for a hundred years, and though costing hundreds of millions of dollars it has been actually

wasted. We have but few good roads, and these were built, for the most part, under the supervision of road builders. We want permanent roads that will mark this age as the Appian Way marked the age of Appius Claudius Cæcus, which, though built more than twenty centuries ago, is still in use. We should build roads of such character that the beginning of the twentieth century shall be referred to in the thirtieth as the era of good roads.

Measures asking Federal aid for this purpose, introduced in the last Congress, have met with signal favor from all classes of people, from all parts of the country, and from a large majority of the politicians of the country. They possess superior merit and solve the great problem of how the General Government may cooperate with the local governments in building National highways. Their provisions have been wisely framed, their purposes are beneficial, their passage will add immensely to the happiness, intelligence, prosperity, virtue, and power of this great Nation.

The good-roads people do not come to Congress with any captious demand, nor in this petition do they intend to suggest the existence of class distinction or invidious discriminations. They believe that the appropriation by Congress of money to aid in highway improvement is authorized by the Constitution, that money judiciously spent for this purpose will do much to elevate and enrich all classes, and that now is the time for action. They believe that the appeal for Federal aid is founded on sound business principles and that all the facts warrant Congressional favor. Here is an opportunity for the exercise of statesmanship of the highest order, and whoever, being in a position of power, shall lend his talents to the successful solution of this great question will endear himself to millions of our people and deserve for all time to be canonized.

SUMMARY.

1. National aid to great undertakings has been given in the past. Congress has repeatedly exercised the constitutional right to aid internal improvements by appropriations for rivers, harbors, railroads, canals, and highways.
2. The improvement of the country roads is of vast importance from both a commercial and sociological standpoint.
3. National aid to the States would incite to State organization and the adoption within the States of scientific and systematic road construction, which result would reach far beyond the immediate neighborhood where actual construction is done.
4. No civilized country in the world that has good roads has accomplished this result without National aid and direction (according to consular reports of the State Department for 1891).
5. It is believed that one of the best results from National aid to road construction would result from the establishment of a road bureau in the Department of Agriculture, and a sufficient appropriation so that it would be possible to start scientific road construction in or near every community in the country.
6. We ask that National aid be extended for only a portion of the cost, as provided in measures now pending in Congress.
7. The National Bureau of Roads, when established, should encourage the organization of State highway commissions in those States where they do not now exist.

8. An appropriation, to be expended under proper legislative restriction by the Secretary of Agriculture in the operations of a bureau of said Department in cooperation with States and localities, would quickly result in the organization and equipment of proper offices and expert forces and State legislation for that purpose in the various States.

9. Desired results will follow the initial work by Government in economy, best methods of laying out and construction, proper location, and articulation of highways.

Respectfully submitted.

J. H. STEWART,
J. B. KILLEBREW,
G. W. COOLEY,

Subcommittee, National Good Roads Association.

MR. CHAIRMAN AND GENTLEMEN OF THE SENATE COMMITTEE ON AGRICULTURE: In response to your request and in accordance with your authorization I respectfully submit the following additional matter, and ask that the same be included in the report of your hearing on roads and road building:

1. A paper by Robert B. Treat, member of State board of public roads of Rhode Island.

2. A paper by R. W. Richardson, secretary of the National Good Roads Association, to which are appended copies of resolutions recently adopted by State legislatures, road conventions, and other influential bodies in favor of National aid.

3. A brief favoring National aid in road building, by Halbert P. Gillette, of New York.

4. A discussion of the cost of hauling on different kinds of roads, by Mr. Gillette, of New York.

5. A short statement by Walter P. Reckord, of Maryland.

6. A statement submitted by M. V. Richards, land and industrial agent of the Southern Railway.

7. A statement submitted by the highway commission of Massachusetts.

8. A statement by J. O. Sanford, State highway commissioner of Vermont.

9. Arguments for National aid, by Henry I. Budd, State commissioner of public roads of New Jersey.

10. A statement by Mr. P. H. Hanes, of North Carolina.

11. Some reasons for National aid, by S. Edwin Thornton, of Nebraska.

12. A historical sketch of the National Pike, by M. O. Eldridge, assistant director of the Office of Public Road Inquiries, United States Department of Agriculture.

13. A symposium containing the views of officials and other prominent men on good roads and needed road legislation.

14. A few quotations from the writings and speeches of statesmen prominent in the early history of the Republic.

15. A brief discussion of the road legislation in force in the States of the Union.

16. A brief compilation of information concerning roads and road laws in some foreign countries.

17. A few quotations from recent editorial utterances of leading periodicals in the United States.

These papers have been prepared by members of our committee and others who are familiar with the subjects discussed, and I believe they contain a large amount of valuable information which it is hoped may be of use to your honorable committee.

Respectfully submitted.

THOMAS G. HARPER,

Chairman of Committee of National Good Roads Association.

STATEMENT OF ROBERT B. TREAT, OF RHODE ISLAND.

The Chairman and Members of the Committee.

GENTLEMEN: The people of Rhode Island, irrespective of party affiliation, stand as a unit for National aid in the construction of good roads. Not only the farmers but people of all classes realize the imperative necessity of permanent highway improvement for the prosperity and welfare of the State. Our State board of public roads is doing good work upon the principal highways of the State, but at the present rate of progress many years must pass before the work will approach completion.

We believe Congress will eventually come to the assistance of the people in this matter. There never has been a time when the finances of the Nation were in better condition to commence the undertaking than at present. Delay means a continuance of the burden upon the farmers and upon the whole people which they can ill afford to carry and to which they will not become resigned.

A few of the many reasons why the Government should aid in the construction of good roads are—

Because the revenues of the Government are raised largely upon articles consumed by all the people, thereby distributing taxation equally, and as all the people should contribute to the construction and improvement of the roads it is only by Federal aid that this can be accomplished.

Because it is the duty of the Federal Government to bear its just proportion of the expense for the construction and improvement of the roads which it uses for the delivery of the mails and for military purposes in time of war, and which are the arteries of interstate commerce.

Because better roads are a national necessity—they closely concern the general welfare of the nation—and are therefore a proper object of National aid.

The people of this great Nation are determined that the National Government shall aid in the construction of improved highways. The demand can not be ignored, and continues to increase in force and determination each year.

We ask your honorable committee to recommend the appropriation of the sum of \$24,000,000 for road improvements, one half of the cost of construction to be borne by the Government and the other half by

the States, all to be under the supervision and control of the Secretary of Agriculture.

Little Rhody is ready and willing to join with the Government in contributing liberally toward the improvement of her highways.

Gentlemen, we are expecting the best at your hands and at the hands of Congress. This is a reform that is sure to come in the near future. In these United States of America the people still have the controlling power. It is their voice that is now heard, and we respectfully represent that the servants of the people in Congress assembled can not afford to deny their request.

I thank you for this opportunity.

Respectfully submitted.

ROBERT B. TREAT,
Member State Board of Public Roads of Rhode Island.

WASHINGTON, D. C., January 26, 1904.

STATEMENT OF R. W. RICHARDSON, OF NEBRASKA.

*To the Honorable Chairman and Members
of the Committee on Agriculture, United States Senate.*

SIRS: I beg to submit for your consideration a few brief suggestions favorable to National aid to the States in the improvement of the public highways:

First. At least 95 per cent of the roads and highways of this country are unimproved so as to be durable for traffic and travel at all seasons of the year. Improved roads being essential to our highest industrial, commercial, and social development, the solution of the problem of their permanent improvement demands the serious and persistent consideration of our people.

Second. The present condition of our public roads, after an experience of more than one hundred years, proves conclusively that past and present methods of management are wholly inadequate, and that it is necessary to devise and put in operation some new plan to provide an adequate system of durable public roads and highways commensurate with the civilization and progress of this country.

Third. A few of the States, i. e., the oldest and wealthiest, are making progress in road building under what is commonly known as the State aid plan. This plan provides for intelligent State supervision and equalization of the cost, so as to distribute the burden upon all interests benefited without being seriously felt by any. This method is practical in its operation and is generally approved by the agricultural and commercial classes. Under this plan the cost is prorated upon the State, the county, and the local district.

Fourth. It has been considered by many who have given careful thought and study to this question that it is of sufficient public importance to justify and demand the aid of the Federal Government in highway improvement, thus adding another factor in the cooperation of the State, county, and district, making the burden lighter, stimulating and extending road building in the entire country. This idea is based on the following facts:

(1) Good public roads are necessary for the extension of an efficient rural free delivery of the mails.

(2) The public highways constitute an important part of the transportation facilities and systems of this country. Transportation is at the base of civilization, industry, and commerce. We spend millions to improve rivers, harbors, and canals, lend aid to railways, not because the Government owns the river, the harbor, the canal, or the railway, but to facilitate communication, cheapen and improve transportation, so as to encourage and extend trade and commerce.

(3) The common road is the most common of all public interests. It is primary among all internal improvements. Road improvement will encourage the use and development of the modern motor vehicle, lessen the cost of transportation, render more democratic and independent the communication and intercourse of the people, consolidate and better the means of education, promote knowledge, frugality, and religion, the safeguards of our institutions and the perpetuity of our Government.

(4) The States with few exceptions are unable to permanently improve the public highways. The States must resort to heavy direct taxes, while the General Government enjoys the revenues derived from tariff duties and internal-revenue taxes laid upon all the people. All are benefited by good roads and should share in their costs. The policy of Government aid to internal improvement is thoroughly established. (*See Webster's Speeches*, 8th ed., vol. 1, pp. 392 and following.)

(5) No other country has ever constructed and maintained a system of improved roads without the aid of the general government. We will never improve the roads of this country nor get out of the mud, dust, bad ruts, and grades until the General Government lends its aid to the State in a substantial way.

Fifth. It has been argued that for the Government to aid the States in building roads would be rank paternalism. As the public roads are public property for the free use of all, and especially by the Government, every day in the year, and always classed with rivers, harbors, canals, and other internal improvements, it is difficult to comprehend the force of this argument.

Again, it is said that for the Government to enter upon the policy of financial aid to improve the highways would mean a raid upon the Treasury. The experience of the States operating upon the same principle does not justify the conclusion. The plan automatically regulates itself, as the States must provide at least an equal amount with that of the General Government. The real trouble will be in getting the States to use the money thus appropriated as rapidly as desired. Take, for instance, the State of Pennsylvania. The last legislature appropriated \$6,500,000 to aid the counties in the improvement of their public roads, the State to bear two-thirds of the cost of the improvement. There has been no raid on the State treasury as predicted. In fact, the friends of the measure find it necessary to promote the initiative in the counties to secure their portion of the State aid. I am told that this was the experience of New Jersey, Massachusetts, Connecticut, and New York under their State-aid laws. There is no reason to believe that it would be otherwise under National aid. Certainly the measure could be safeguarded in such a way as to prevent any raid upon the Treasury were such danger imminent.

Sixth. There is a growing sentiment throughout the country in favor of the Government lending its aid to the States for the improvement

of the public highways. As an evidence of this I attach hereto copies of resolutions adopted by various associations, commercial bodies, agricultural societies, and legislatures favorable to this policy.

National aid under the plan proposed does not mean for the Government to build the roads and relieve the States. It does mean that the National and State governments shall cooperate to establish a general system of improved State, interstate, and postal roads. It is a great undertaking and involves large expenditure, and because this is true it demands the aid and support of the General Government. It is not impracticable nor impossible. Those who have given the subject most careful thought believe that National and State cooperation is the solution of the problem. It is difficult, it is true, but it must be solved.

Yours, very respectfully,

R. W. RICHARDSON,

Secretary National Good Roads Association.

RESOLUTIONS IN FAVOR OF NATIONAL AID IN THE IMPROVEMENT OF PUBLIC HIGHWAYS ADOPTED BY STATE LEGISLATURES AND VARIOUS CONVENTIONS WHICH HAVE MET TO CONSIDER THIS QUESTION SINCE THE BROWNLOW BILL WAS INTRODUCED.

AMERICAN ROADMAKERS CONVENTION, DETROIT, MICH.

Whereas there is now under consideration by the Congress of the United States a bill known as the Brownlow bill, which provides that the United States shall appropriate money from the National Treasury to be applied to the purpose of the improvement of the public highways in the several States under certain conditions; and

Whereas The American Roadmakers is an organization composed of a widely representative citizenship of men who are at once earnest advocates of the improvement of the general highways of the country and loyal and patriotic citizens thereof:

Resolved, That it is the sense of this convention that the principles embodied in the said Brownlow bill should be enacted into a law of the United States, under the provisions of which shall be incorporated a system of cooperative road building as between the United States and the several States or other political subdivisions composing the Union upon some equitable basis of sharing the expense of same as between the General and State governments, thereby stimulating the efforts of the people in the line of highway improvement; and that this policy should be recognized as a just and proper feature of the general work of internal improvements now being carried forward by the Federal authorities throughout the Union.

**PLANK IN THE OHIO REPUBLICAN STATE PLATFORM ADOPTED JUNE 4,
1903.**

Better roads would save Ohio's citizens millions of dollars yearly and should be systematically established. They are especially needed on account of the rural free-delivery system, for which the demand

now is well-nigh universal. Inaugurated by Republicans, a Democratic administration refused it a trial, and Republicans have now proved its value. We favor the extension of the system as rapidly as possible wherever desired.

Public improvements have been invariably favored by the Republican party, benefiting the entire country many times their total cost. Every citizen interested in better rivers and harbors, public highways, improved postal service, forest preservation, flood prevention, the great isthmian canal, and other enterprising improvements of like character have their rightful home only in the Republican party, where progress has never been opposed.

TRANS-MISSISSIPPI COMMERCIAL CONGRESS, SEATTLE, WASH., AUGUST 22, 1903.

Recognizing that properly constructed highways are primarily essential to the highest development and commercial prosperity of the Trans-Mississippi country, and believing that it is neither equitable nor feasible to secure them wholly at the expense of the local district, but that their cost should be prorated among all interests benefited: Therefore, be it

Resolved by the Trans-Mississippi Commercial Congress in convention assembled in the city of Seattle, That we urgently recommend to the several States that they adopt a system of highway improvement, under competent engineering supervision, embodying the general principles of the modern plan of State aid now successfully practiced in many of the older States; and that we favor the still further distribution of the burden by enlisting the aid of the National Government, and request the active support of our Representatives in Congress for this policy.

MINING CONGRESS, DEADWOOD, S. DAK., SEPTEMBER 7, 1903.

Recognizing that properly constructed highways are vitally important to the highest development of the mining industry, and believing that the State and the Nation, which share in the benefits, should contribute their equitable proportion of the cost: Therefore, be it

Resolved by the American Mining Congress in convention assembled at the cities of Deadwood and Lead, S. Dak., That we emphatically approve a system of highway improvement, under competent engineering supervision, embodying the general principles of State aid now successfully practiced in many of the older States; and that we believe that the General Government ought in equity to assume its pro rata of the burden of cost, and we request the active support of our Representatives in Congress for this policy.

LEGISLATURE OF MINNESOTA.

Whereas the burden of improving and maintaining our highways according to the general prevailing system in this country rests

entirely upon the agricultural lands and people living in the rural districts; and

Whereas the State-aid plan for constructing highways, as practiced in the States of New Jersey, New York, Connecticut, and Massachusetts, has proven satisfactory in its operation and has offered a partial solution of the road question in that it distributes this burden of cost so that one-half is paid out of a general fund supplied by the State; and

Whereas it is desirable to extend this principle of cooperation and distribution of the burden of cost to a still greater extent, so that the Government of the United States shall bear a share of the cost of construction to be paid out of the general revenues of the United States; and

Whereas one-half of said revenues, aggregating during the last two years \$1,000,000,000 per annum, is derived from the agricultural States and rural districts, while only 10 per cent of the total amount is appropriated by Congress for the use of said agricultural States and districts, while 90 per cent is appropriated for public buildings and other uses pertaining to great cities; and

Whereas the Hon. Walter P. Brownlow, member of Congress from Tennessee, has introduced a bill in the House of Representatives, providing for a system of National, State, and local cooperation in the permanent improvement of the public highways, according to the provisions of which the sum of \$20,000,000 is appropriated, and the United States Government is to pay one-half of the cost of improving any public highway when requested so to do by, and in cooperation with, any State or civil subdivision thereof: Therefore, be it

Resolved by the general assembly of the State of Minnesota, That we hereby heartily indorse said Brownlow bill and recommend its passage by Congress, and that we request the Representatives from the State of Minnesota in Congress and instruct the United States Senators from this State to vote for and support said bill.

WASHINGTON GOOD ROADS CONVENTION, SPOKANE, WASH., OCTOBER
10, 1903.

Recognizing that properly constructed highways are primarily and indispensably essential to the highest development and industrial prosperity of any country, and believing that it is neither equitable nor feasible to secure them wholly at the expense of the local district through which they pass, but that their cost should be suitably pro-rated among all interests benefited: Therefore, be it

Resolved by the Washington State Good Roads Association in convention assembled in the city of Spokane, That we urgently recommend a system of highway improvement, under competent engineering supervision, embodying the general principles of the modern plan of State aid now successfully practiced in many of the older States; and that we favor the still further distribution of the cost of new highway construction by securing from the National Government its equitable proportion, so that the district and county, the State and Nation, may cooperate on a fair basis in a matter so vital to the general welfare; and we ask the active support of all our representatives, both in the State legislature and in Congress, for this policy.

OREGON GOOD ROADS ASSOCIATION CONVENTION, OCTOBER 23-24, 1903.

Be it resolved, That we favor the general principle of State aid in road construction, under competent engineering supervision, as embodied in the laws of many of the older States; and we believe that the General Government that derives its prosperity and power from the States should contribute its equitable proportion to the cause of road betterment, which will so greatly advance the welfare of the States and improve the condition of all the people; and we urge our State and National representatives to give their hearty support to this policy; and we especially urge upon our Representatives in Congress the necessity and great importance of an appropriation of not less than \$1,000,000 for the Office of Public-Road Inquiries, in order that object-lesson roads may be constructed in all the States.

CONVENTION OF THE ARKANSAS STATE GOOD ROADS ASSOCIATION,
JANUARY 21-22, 1903.

Resolved, That—recognizing the subject of the betterment of the public roads as one of general internal improvement and that the General Government has an interest in interstate, military, and post-roads, and a further interest in their economical and educational features, and that the Government should give substantial aid to this necessary improvement; and further believing that while the agricultural interests contribute an equal share of the revenues of the General Government they do not receive a proportionate share in the distribution of same—we commend the general principles of the Brownlow bill now pending in Congress, and request the members of Congress from this State to give to said measure their support and influence.

Resolved, That a copy of these resolutions be sent to each member of the present Congress from this State and to the new members-elect.

NEW YORK STATE FOURTH ANNUAL GOOD ROADS CONVENTION, ALBANY,
N. Y., JANUARY 2, 1904.

Whereas the Hon. Walter P. Brownlow, of Tennessee, has introduced in the House of Representatives, at Washington, a bill asking for the appropriation of \$20,000,000 to provide a system of National and State highways, drafted on substantially the lines of the Higbie-Armstrong bill of New York State, and appropriating to each State in the Union its portion of the \$20,000,000, according to the population by the census; and

Whereas the State of New York would receive, if such a bill were passed, approximately \$2,000,000 of National money for the construction of highways in this State: Now, therefore, be it

Resolved, That we heartily approve of the purposes of this bill, and urge our Senators and Representatives to assist in the passage of legislation obtaining Federal aid in the construction of highways.

Resolved, That copies of this resolution be sent by the chairman of the standing committee to each Senator and Representative in Congress from this State.

EAST TENNESSEE FARMERS' CONVENTION, MAY 23, 1903, KNOXVILLE,
TENN.

Whereas we believe in the plan to consolidate the rural schools, and knowing that this can not be done without good roads leading to the central school, and believing further that good roads through the rural districts furnish the basis for prosperity for the whole country, rural and urban, and believing also that the expenses of building these roads should be borne by the whole country, and as the Brownlow good-roads bill furnishes an equitable plan for doing this: Therefore, be it

Resolved, That we favor the Brownlow good roads bill and petition Congress to enact it into law at its next session.

EASTERN MONROE COUNTY GOOD ROADS ASSOCIATION CONVENTION,
TOMAH, WIS.

Be it resolved, That we favor the passage of the bill recently introduced in Congress by the Hon. W. P. Brownlow, which provides for a system of National, State, and local cooperation and aid in the permanent improvement of the postal-delivery routes in the various States, and that we urge the members of Congress from Wisconsin to work and vote for this bill.

Be it further resolved, That the secretary of this association be instructed to forward at once a copy of these resolutions to each member of the legislature and to each member of Congress from Wisconsin.

SEVENTEENTH ANNUAL WISCONSIN FARMERS' INSTITUTE.

Resolved, That we favor the passage by Congress of the Brownlow bill, which provides for a system of National, State, and local cooperation and aid in the permanent improvement of the postal-delivery routes and highways of the United States.

ST. PAUL CHAMBER OF COMMERCE, SEPTEMBER 1, 1903.

We commend the Fifty-seventh Congress for increasing the appropriation for the highway office of the United States Department of Agriculture, and urgently express our conviction that the policy of the Government should be to strengthen the efficiency of this office by yearly increasing the appropriations.

BOARD OF SUPERVISORS, HERKIMER COUNTY, N. Y.

Whereas the Hon. W. P. Brownlow, Congressman from Tennessee, has introduced into Congress a bill providing for an appropriation by the Federal Government of \$24,000,000, to be distributed among the States of the Union according to their population for Federal coopera-

tion with States, counties, and towns in the construction of public highways; and

Whereas the State of New York would receive as its share, should this bill pass, over \$2,000,000; and

Whereas the National Grange, assembled at Rochester on the 20th day of November, passed resolutions indorsing this bill, recognizing the necessity of Federal aid for the purpose of reenhancing farm values and decreasing the cost of transportation of farm produce to the local markets: Therefore, be it

Resolved, That we, the board of supervisors of Herkimer County, do approve of said Brownlow bill and request our United States Senators and our members of Congress to use their best efforts to secure its passage; and

Be it also resolved, That the clerk of this board be directed to forward a copy of this resolution to Hon. Charles L. Knapp and Hon. James Wadsworth, members of Congress, at Washington, D. C., and also to William Pierrepont White, at Utica, N. Y.

BOARD OF SUPERVISORS OF ONEIDA COUNTY, N. Y., DECEMBER 4, 1903.

Resolved, That we, the board of supervisors of Oneida County, do approve of said Brownlow bill, and request our Members of Congress and Senators to use their best efforts to secure its passage, and direct that our clerk send a copy of this resolution to the United States Senators from the State of New York and to our Congressman, in order that we may get money from somewhere to build up our farm values.

BOARD OF SUPERVISORS OF CATTARAUGUS COUNTY, N. Y.

Resolved, That this board is fully in accord with the Brownlow bill, so called, now pending in Congress, granting aid to States in constructing highways, etc.

Also that our representatives in Congress be requested to assist in procuring the passage of such act.

WISCONSIN DEVELOPMENT ASSOCIATION, APRIL, 1903.

Whereas a bill (H. R. 15369) has been introduced in the Fifty-seventh Congress by Mr. Brownlow; and

Whereas the United States is an agricultural country, and her prosperity depends upon that industry more than any other; and

Whereas the agriculture of our country depends almost wholly upon transportation in placing her in position to compete with other agricultural countries in gaining entrance to the markets of the world; and

Whereas we have made the greatest strides of any country in the development of rail and water transportation and the mode of handling products of our rural districts; and

Whereas our public highways are far behind our competitors and our largest cost in transportation is the journey from the farm to the railroad station, because our rural districts are unable to make the

necessary improvements on account of the first cost and the lack of proper machinery, which is absolutely necessary to make proper and permanent improvements: Therefore, be it

Resolved, That every Member and every Senator be asked to support the said bill introduced by Mr. Brownlow, and to give the honored Member from Tennessee their unqualified support and assistance in passing said bill.

SECOND ANNUAL MEETING ALABAMA GOOD ROADS ASSOCIATION.

Resolved, That the convention hereby indorses the bill introduced in Congress by Mr. Brownlow to create in the Department of Agriculture a bureau to be known as the Bureau of Public Roads, and to provide for a system of National, State, and local cooperation in the permanent improvement of the public highways, and that we respectfully request our Senators and Members of Congress to vote for and urge the passage of the same.

WISCONSIN HARDWOOD LUMBERMEN'S ASSOCIATION.

Whereas Mr. Brownlow, of Tennessee, has presented in Congress a bill, known as H. R. 15369, to create in the Department of Agriculture a bureau to be known as the Bureau of Public Roads, and to provide for a system of National, State, and local cooperation in the permanent improvement of the public highways; and

Whereas the lumber interests of the country are materially affected, both fall and spring, by reason of mud, whether it be in Tennessee, Missouri, Wisconsin, or any other State; and

Whereas our interests are affected by this condition: Therefore, be it

Resolved, That we, as an association, ask our Congressmen and Senators to cooperate with Mr. Brownlow; and further

Resolved, That copies of this resolution be forwarded to our Congressmen and to our Senators and to Mr. Brownlow; and further

Resolved, That copies of this resolution be forwarded to the Wisconsin Retail Lumber Dealers' Association, requesting its cooperation.

THIRTY-FIFTH LEGISLATIVE ASSEMBLY OF NEW MEXICO.

Whereas it appears that there is now pending in the Congress of the United States a measure introduced by Hon. Walter P. Brownlow in the House of Representatives which seeks to establish a policy to be pursued by the United States Government in reference to the improvement of the public highways of the country; and

Whereas the said bill appears to be a good and wholesome measure for the establishment and maintenance of public highways in the country:

Therefore, your memorialist, the thirty-fifth legislative assembly of the Territory of New Mexico, respectfully requests the Congress of the United States to pass said bill at its next regular session, believing that the same will be of great and lasting benefit to the people of the country: Therefore, be it

Resolved, That the foregoing memorial be, and the same hereby is, adopted, and that the secretary of this Territory be, and he is hereby, requested to certify copies thereof to the President of the Senate and the Speaker of the House of Representatives of the United States, and a copy to our Delegate in Congress, the Hon. B. S. Rodey, and to Hon. W. P. Brownlow, at Washington.

ASSOCIATED CYCLING CLUBS OF NEW YORK.

Whereas the public roads are of the greatest use to the greatest number, and in our opinion as worthy of Federal interest and aid as rivers and harbors; and

Whereas the roads are an index to the country's civilization,

Resolved, That the Associated Cycling Clubs of New York welcome and heartily indorse as a step in the right direction the good roads bill introduced in Congress by Hon. W. P. Brownlow, making as it does for not only the comfort and progress of man and beast, but for the proper standing of the United States in the ranks of civilized nations.

Resolved further, That these Associated Cycling Clubs of New York request of their representatives in Congress their earnest and whole-hearted support of the said Brownlow bill.

ANNUAL CONVENTION OF THE BOARD OF SUPERVISORS OF NEW YORK.

Whereas the Hon. W. P. Brownlow, of Tennessee, has introduced in the House of Representatives at Washington a bill asking for the appropriation of \$20,000,000 to provide a system of National and State highways, drafted on substantially the lines of the Higbie-Armstrong bill of New York State, and appropriating to each State in the Union their portion of the \$20,000,000 according to the population by the census; and

Whereas the State of New York would receive, if such bill were passed, approximately \$2,000,000 of National money for the construction of highways in this State. Now therefore be it

Resolved, That we heartily approve of the purposes of this bill and urge our Senators and Representatives to assist in the passage of legislation obtaining Federal aid in the construction of highways.

Resolved, That copies of this resolution be sent by the chairman of the standing committee to each Senator and Representative in Congress from this State.

NATIONAL GRANGE, ROCHESTER, N. Y., NOVEMBER 20, 1903.

Whereas the United States Government has expended vast amounts of money in the improvement of transportation facilities by river and harbor appropriations and has donated vast tracts of valuable land in aid of the construction of railroads: Therefore be it

Resolved, That the National Grange favors the inauguration of a

National policy for the improvement of highways, and the appropriation by Congress of a liberal amount to establish a comprehensive system of road improvement through the cooperation of the Federal and State Governments, suggesting that the general features of what is termed the Brownlow bill embody, with some modifications, the essential features of such a policy.

Resolved, That we call upon all State, pomona, and subordinate granges to take prompt and vigorous action upon this important matter; and we hereby authorize the legislative committee of the National Grange to inaugurate and conduct an aggressive campaign in securing Federal aid for improvement of highways. Also that our legislative committee be authorized to gather all the information possible regarding the road laws and systems of road building in the several States, and that such information be published in such form as the committee deems best.

THE DELAWARE STATE GRANGE, DOVER, DEL., DECEMBER 16, 1903.

Resolved, That we indorse the principle of National aid to road improvement, and unreservedly favor the Brownlow bill as the best embodiment of that principle.

Resolved, That the secretary be, and he is hereby, instructed to send a copy of the above resolution, duly signed and sealed, to the Hon. Walter P. Brownlow and to Senator Allee, Senator Ball, and Representative Houston.

CECIL GRANGE, NO. 6, MARYLAND.

We, the undersigned members of Cecil Grange, No. 3, of Rising-sun, Md., do respectfully petition our Senators and Congressmen to pass House bill No. 15369, a bill "To provide for a system of National, State, and local cooperation in the permanent improvement of the public highways and to create in the Department of Agriculture a bureau to be known as the Bureau of Public Roads," believing, as we do, that such a law would greatly benefit our people in the rural districts.

[Signed by the members of the grange.]

MILFORD GRANGE, NO. 6, MILFORD, DEL., NOVEMBER, 21, 1903.

Resolved, That we indorse the principle of National aid to road improvement, and unreservedly favor the Brownlow bill as the best embodiment of that principle.

HIGHLAND GRANGE, NO. 888, HIGHLAND, N. Y.

Resolved, That the Highland Grange, No. 888, Patrons of Husbandry, indorses and earnestly urges the immediate passage of bill H. R. 15369, and that the secretary forward the resolutions under seal of the grange to its Representatives at Washington.

BLACKSTONE GRANGE, BLACKSTONE, MASS.

Resolved, That this grange request the member of Congress from this district to support the Brownlow bill for creating in the Department of Agriculture a bureau to be known as the Bureau of Public Roads, and to provide for a system of National, State, and local cooperation in the permanent improvement of the public highways.

KIRTLAND GRANGE, WILLOUGHBY, OHIO.

We, your committee on resolutions, beg to submit the following:

Resolved, That we instruct our Congressmen, Hon. J. A. Beidler, of the Twentieth Congressional district, and Hon. T. E. Burton, of the Twenty-first Congressional district, to use their best honorable endeavors to assist in the passage of the Brownlow bill, known as bill H. R. 15369, Fifty-seventh Congress.

[Signed by members of the Grange.]

DANIEL WEBSTER GRANGE, WEBSTER, N. H.

Resolved, That it is the sense of this grange that H. R. 15369, introduced by Mr. Brownlow, of Tennessee, ought to become a law, and that we respectfully request and urge our Senators and Representatives in Congress to use all legitimate efforts to further the same.

Resolved, That the secretary of this grange forward a copy of these resolutions to each of our Representatives and Senators in Congress and also a copy to Hon. W. P. Brownlow, Representative from Tennessee.

CHAMPION GRANGE, NO. 840, SANDUSKY, OHIO.

We, the undersigned members of Champion Grange, No. 840, Upper Sandusky, Ohio, do respectfully petition the House of Representatives to pass House bill 15369, "A bill to create in the Department of Agriculture a bureau to be known as the Bureau of Public Roads," believing, as we do, that such a law would greatly benefit our people in the rural districts.

[Signed by members of the grange.]

ELM GROVE GRANGE, GLENBURG, OHIO.

We, the members of the above-named grange in Williams County, Ohio (140 in number), would be pleased to have you support H. R. 15369, to create the Bureau of Public Roads in the Department of Agriculture.

RESOLUTIONS UNANIMOUSLY ADOPTED BY THE NEW YORK SENATE AND HOUSE.

Whereas Hon. W. P. Brownlow, Congressman from Tennessee, has introduced into Congress a resolution providing for an appropriation by the Federal Government of \$24,000,000, to be distributed among the States of the Union according to their population for Federal cooperation in road building, on condition that the States, counties, and towns raise an equal portion to that which they receive from the Federal Government; and

Whereas should said bill become a law the State of New York will receive as its share \$2,100,000; and

Whereas the counties and towns of this State have petitioned the State engineer and surveyor for over 4,000 miles of road for which the State has as yet made no appropriation; and

Whereas there is great need for improving the highways of this State: Therefore, be it

Resolved, That the assembly of the State of New York, believing in the principle of National, State, county, and town cooperation in the construction of main highways not only for the benefit of the agriculturist, but for the benefit of the consumers of agricultural products; and also believing in the great proposition that the expenditure of public moneys for the purpose of improving the internal wealth and commerce of the Nation is of equal importance to the spending of money on the rivers and harbors; we, therefore, heartily indorse the provisions of the Brownlow bill and desire its passage; and

Further be it resolved, That we ask our Senators and Congressmen to use all honorable efforts in passing this bill in order to secure for the State of New York the benefits of National aid in road construction; and

Be it further resolved, That a copy of this resolution be sent to James W. Wadsworth, chairman of the Agricultural Committee, and each of the Senators and Congressmen from this State.

RESOLUTIONS OF THE FREMONT COMMERCIAL CLUB, OF FREMONT, NEBR.

At a meeting of the Fremont Commercial Club held January 7, 1904, the Brownlow road bill was carefully considered, as had been done favorably on one or two former occasions, and on motion the following resolution was adopted by unanimous vote of the meeting and ordered transmitted by the secretary to the Senate and House of Representatives of the United States:

"Whereas the subject of good roads is one in which this city, because of its long stretches of surrounding bad road soils, is interested, and to which this association and our citizens generally have given much attention; and

"Whereas the State laws and provision for roads are entirely inadequate and antiquated for the handling of difficult road situations and need the example and stimulus which the enactment of a National road law like that contemplated in the Brownlow bill would give: Therefore, be it

Resolved, That this association, representing the city of Fremont by

a membership of several hundred, including practically the entire business community, are entirely in favor of the enactment by Congress of the Brownlow road bill proposing National assistance in cooperation with the States, counties, and local communities for the building of improved highways outside of the limits of cities and towns.

"Resolved, That copies of these resolutions, together with a copy of the pamphlet on roads recently published by this association, showing the difficulties and needs of road construction in this locality, be transmitted to the Senate and the House of Representatives."

The above is a true copy of the resolutions.

Attest:

J. F. HANSON, *Secretary.*

RESOLUTIONS ADOPTED BY THE SEVENTEENTH ANNUAL CONVENTION
OF SUPERVISORS AND COUNTY CLERKS OF ILLINOIS, HELD AT CAIRO
FEBRUARY 9, 10, 11, 1904.

Believing that improved permanent public roads are necessary to the better development of the resources of the State and Nation and essential to social, commercial, and agricultural progress, and recognizing that the most practical and equitable solution of the road problem is under the State and National aid plan: Therefore,

Be it resolved, By the supervisors, county commissioners, and county clerks in their seventeenth annual convention assembled in the city of Cairo, that we indorse the principles of State and National aid in the permanent improvement of the public roads and highways, and urge upon our representatives in the State and in the National Congress to give their vote and support to such modern and practical legislation as will secure the cooperation of the National, State, and local governments for the permanent improvement of our highways; and further,

Resolved, That a copy of this resolution be sent to each of our Representatives in Congress, and also a copy furnished to the chairman of the good roads commission of Illinois to be presented to the members of the next general assembly.

RESOLUTION OF THE SENATE AND HOUSE OF REPRESENTATIVES OF TENNESSEE.

Whereas there has been a bill introduced in Congress by Hon. W. P. Brownlow, a member from the First Congressional district from this State, "To create in the Department of Agriculture a bureau to be known as the Bureau of Public Roads, and to provide for a system of National, State, and local cooperation in the permanent improvement of the public highways;" and

Whereas this bill provides for the distribution of \$20,000,000 from the National Treasury, to be divided among the various States in proportion to their population; and

Whereas we recognize the deplorable condition of our public roads and the inadequacy of funds collected under our present system to improve their conditions, and believing that the National aid provided for in this bill will add greatly to the wealth and material prosperity of our State: Therefore be it

Resolved, That we heartily indorse this bill of Hon. W. P. Brownlow, and urge our members of Congress and Senators to support the same.
Adopted March 19, 1903.

ED. T. SEAY,
Speaker of the Senate.

L. D. TYSON,

Speaker of the House of Representatives.

Approved March 25, 1903.

JAMES B. FRAZIER, *Governor.*

[From the Minneapolis (Minn.) Tribune.]

GOOD-ROADS BILL INDORSED—COMMERCIAL CLUB LEGISLATIVE COMMITTEE ANXIOUS FOR BROWNLOW BILL TO PASS.

The legislative committee of the Commercial Club has decided to recommend to the public affairs committee the indorsement of the bill for good roads now before Congress and known as the Brownlow bill.

[Special to the Record-Herald.]

FARMERS TO URGE GOOD ROADS—NATIONAL UNION WILL ASK CONGRESS FOR APPROPRIATIONS.

MURPHYSBORO, ILL., January 20.

The National Farmers' Social and Economic Union closed a three days' session to-day, the first in the history of the organization, which numbers 3,000 farmers. An open meeting was held last night, at which good roads were discussed, and the union decided to urge Congress to make an appropriation each year for permanent roads. The next meeting of the national association will be held at St. Louis in July.

A BRIEF FAVORING NATIONAL AID IN ROAD BUILDING, BY HALBERT P. GILLETTE, OF NEW YORK CITY.

The most reasonable argument against Federal aid to the farmers in road building is one voiced in a recent editorial article of a prominent daily paper under the caption, "Stupendous paternalism." But that the argument is fundamentally fallacious is, I think, susceptible of proof. One sentence from the editorial referred to gives, in a few words, the chief objection to National aid in road construction as follows:

If it be suggested that national commerce would be increased by the carrying out of this project, we submit that the same argument would apply as well in support of a bill to supply the farmers with fertilizers, with improved farming implements, or superior breeds of horses, cattle, hogs, or sheep.

Of course it is implied in this argument that the farmer who would accept good roads from the Nation would ask for and accept

Government-bred cattle, and that in doing either the one or the other he would demean himself and bring his Government into the contempt that the word paternalism implies.

I submit that such a comparison is most unjust and illogical. The farmer who might become the owner of a Government-given cow could not be restrained from giving it away, willing it to incompetents, or selling it to the beef trust. A road, on the other hand, can not be destroyed nor made way with by conveyance. It is, in truth, not the property of any one man nor of any class of men. It belongs to every man, woman, and child in the Nation. In the truest significance of the term a road is National property.

The city streets are used, for the most part, by deliverymen; hence, in a foolish sense, the city streets belong to these deliverymen.

In the same foolish sense the country roads belong to the farmer. The drayman delivers goods at our doors in the city; the farmer delivers produce at the railway stations in the country. In so doing they are both our servants, while we of the cities are their servants in other ways. How many city streets would be paved to-day if the deliverymen had been required to stand the full cost of paving them? Probably as many as the roads now paved in the country—less than 1 per cent. We have waited a century for the farmers to show themselves foolish enough to pave our roadways. I do not say “their” roadways, for never have the roads been the property of those few who use them for the benefit of all.

The owner of property in the city does not average 50 feet of lot frontage, and the cost of paving that 1 per cent of a mile has been comparatively so small that he has not hesitated to pave it; but the farmer fronting upon 25 to 100 times as much highway has chosen to put up with the cost and discomfort of the mud, rather than bear what he knows to be an unjust taxation for the building of a hard road entirely out of his own pocket. Farmers have never shed tears because millions upon millions of dollars are annually wasted in hauling produce over poor roads. Why? Because they have charged up against the consumers the larger portion of that useless expense.

It is true that farmers have suffered from poor roads, but they have suffered less pecuniarily than have the residents in cities who buy their goods. Hence it is that the thinking men of the cities have favored National and State aid in road building. The great movements in behalf of such aid have almost without exception originated in the cities. But—and mark this well—no sooner does the farmer learn that the resident of the city is willing to share the cost of road building, no sooner does he perceive that he can earn his cash tax by hiring his teams to the road builder, no sooner do these facts come before him than from apathy the farmer rouses to enthusiasm.

I point to my own State of New York, to our neighboring States of New Jersey and Massachusetts, in proof of this contention. In New York we have built 300 miles of macadam roads by State aid, and to-day there are petitions before the State engineer for 4,200 miles more of such roads. Every mile of road thus built has laid 14 eggs that will hatch into road mileage. But the incubating process is too slow. It will take more than thirty years to get these 4,200 miles of roads at the present rate of State-aid progress, and we can not wait. We see that State aid is logical in principle, and we demand that this logical principle be carried to its logical end; that as the country road

is the property not of the farmers along it, not of the county in which it lies, not of the citizens of the State, but of the whole Nation, that whole Nation should share in the expense of road construction.

The legislator who concedes the logic of this argument is often appalled by the magnitude of the work of building hard roads throughout the United States. In the State of New York alone there are 73,860 miles of wagon roads, and I have often heard it said that if one mile of these roads is macadamized every mile should be; that as a chain is measured by its weakest link, so should a system of roads be measured. One farmer said to me: "What good will it do me if the stone road doesn't go right by my door, and I am left, say, half a mile off to one side?"

As an engineer engaged in road building in two States since 1892, I have given such questions the careful thought that they merit.

It is not commonly known that a team of horses can exert for two hours out of a day about four times their average tractive force without injury. In consequence of this fact it is possible for a team to pull a load of three tons over a good earth road for a short distance; then with such a load I have seen teams travel half a mile or a mile over a pretty poor earth road, consuming ten to twenty minutes in so doing; then upon reaching the hard macadam road that same team has trotted much of the way for 8 miles to market. The practical point in this fact is that all the roads in a State need not be either graveled or macadamized; that the civil engineer provided with topographic maps can select the main roads which should be macadamized, and leave the minor earth roads as feeders to these main roads. Indeed by so doing he carries a step farther just what he does in locating railroads.

A railway can not go by every farmer's door, but it can be so located as to give the great majority of farmers a comparatively short haul, although at best this "comparatively short haul" is extremely expensive. Now, the engineer locates the stone road upon exactly the same principle as he locates the railway, with the object of making the haul over earth as short as possible. We estimate that in New York State about 10 per cent of our highways now need to be macadamized to accomplish the purpose above outlined. We are already provided with about 8,100 miles of steam roads and we badly need about as many miles of macadam roads.

Looked at from an engineering point of view, we therefore see that we gaze upon a mere bugaboo when we look at the enormous total road mileage of the country. We see also that there is no logic in applying to road construction the simile of the chain and its weakest link.

I have never seen in print what to me seems the true reason why a State-aid law becomes so immediately popular among farmers. The farmer hates a cash tax, as who does not? He will work out—I should say sit out—a poll tax willingly enough, and he finds that where road work is done by contract he can still work out his tax. From the careful records of road-work cost which I have kept I find that half the cost of macadam road building is the cost of hauling with teams. There is the earth to be hauled in grading, the rock to be hauled to the crusher, the broken stone and binder to be hauled to the road, the water to be hauled to puddle the binder into the voids of the broken stone, and, finally, the coal and supplies to be hauled for the rollers that roll the stone.

Who does all this hauling? The farmers—at \$3 to \$4 a day per team. The four road-making months of the year come, fortunately, between the spring plowing and the fall harvesting, and the contractor hires the farm teams. The road contractor does not usually own teams, because he can not afford to keep them in idleness the other eight months of the year. That is how the farmer works out his road tax under an equitable good-roads law, and that is the secret of the immediate and unqualified popularity of such a law.

State aid is good, is superlatively good in principle, but it does not go far enough. It does not, and it may never, help the farmer in the thinly settled areas of the State. We ask for National aid that the farmer less favorably situated may be able to haul cheaply, and haul every day in the year. The farmer has helped pay for the highways that lead from the ocean to the city. He now asks that the compliment be returned. He asks that the city man help pay for the vastly more important highways that lead from the farms to the railways. He asks it as a simple act of justice, and his request will be assuredly granted.

The residents of the cities are more than willing to stand their half of the burden because they are the greatest pecuniary gainers by good roads. They are the gainers, because in the end they must stand a large portion of the cost of hauling farm produce. They are the gainers, because with good roads there will never be a glut of farm produce in good weather, and a dearth of it in bad weather. They are the gainers, because the mail-order business has been greatly increased since the introduction of free delivery of mail, and because this increase is but the beginning of what it will be when hard roads cease to be conspicuous by their absence. They are the gainers, because every act that promotes the general welfare of the country districts increases the buying power of those districts, and stimulates the commerce that makes the existence of large cities a possibility.

I have emphasized the advantages of road building to the residents of cities and villages, because other writers have ably presented the advantages to country residents. The thinking legislator will ask himself this question: When has Congress ever before been requested to pass a bill that has received the support of men on the farm and of men in the city, of men in the South and of men in the North—of all men regardless of party lines?

We have seen that the cry of paternalism is ill founded, for the farmer can not be given that which is unassignable and has always been the property of all the people—the common highways.

We have seen that macadam roads will be built as feeders to the railways and that they in turn will be fed by innumerable short stretches of gravel roads and earth roads.

We have seen that what at first sight appears to him who has not studied the engineering features of highway construction as a never-ending and enormous drain upon the National Treasury is, in fact, a pigmy expenditure for a giant financial gain. The man whose tongue can not utter the word million without stuttering has yet to school himself in the great economic affairs of a great people.

COST OF HAULING OVER DIFFERENT KINDS OF ROADS.

It is so easy to err in estimating the cost of hauling with horses that one who has not himself kept teams and kept careful records of the

work done by each team is certain to omit some items of cost in making his estimate. For example, one engineer who has attempted to estimate the cost of hauling farm products to market omits the item of interest and depreciation of team and wagon and estimates the cost of each team per diem on the basis of three hundred working days in the year.

On the other hand, the man who has studied only his own records is quite as likely to err, because broad generalizations can not be safely drawn from any one man's experience. I have in my possession all the printed data relative to traction over roads of all kinds in all countries, and have analyzed and compared these data with a view to generalizing safely as to the cost of wagon transportation.

In 1896 the United States Department of Agriculture issued Circular No. 19, in which are given data compiled from the answers to 10,000 letters of inquiry. The returns from 1,200 counties in the United States give the average haul to market and the average load as follows:

Statistics of wagon transportation in different sections.

Section.	Average wagon haul.	Average load of 2 horses.
Eastern States.....	Miles.	Pounds.
Northern States	5.9	2,216
Middle States	6.9	.....
Cotton States.....	8.8	.....
Prairie States	12.6	1,397
Pacific States.....	8.8	2,409
Average of the United States	23.3	2,197
	12.1	2,002

These letters from 1,200 counties showed an average cost of 25 cents per ton per mile for hauling farm produce over common earth roads, or \$3.02 per ton for delivering farm produce from the farm to the railway station or market.

Before these figures had ever appeared in print I had analyzed the cost of wagon hauling over earth roads in the State of Washington, and from records of cost kept for four years by myself I had calculated the average cost of hauling materials used in road building with the following results:

Cost of maintaining a team of horses one month.

One-half ton hay, at \$10	\$5.00
Grain, 30 bushels, at 35 cents	10.50
Straw for bedding.....	1.00
Shoeing and medicine	2.00
Total per month.....	18.50

The cost of feeding and maintaining a working team was therefore \$222 a year. The interest and depreciation per team averaged \$60 per annum. As a check upon these figures I may add that a generation ago 2,000 horses were used on the Brooklyn street railways. The cost of feeding each team was \$20 a month, and the depreciation over a long term of years was 25 per cent per year. Obviously the depreciation is less on farm work, and for that reason my \$60 per annum is more nearly correct. I have also the data of the cost of feeding and

maintaining the thousands of horses and mules used by the H. C. Frick Coke Company, extending over a period of six years. Each animal consumed 500 pounds of hay, 7 bushels of oats, and $4\frac{2}{3}$ bushels of corn per month. These records, together with some others given in my book on Earthwork and Its Cost, are in substantial agreement with each other, so that I am quite certain as to the average cost of team maintenance.

Excluding Sundays and holidays there are three hundred days in the working year, but since four or five months are months of idleness, we have left about two hundred days on which actual hauling may be done. Of these two hundred days about three out of every month are lost on account of rain, leaving approximately one hundred and eighty days of actual work. I have paid from \$1.25 to \$1.50 a day for hire of teamster, and find that it is not safe to estimate upon a basis of much less than two hundred days of teamster hire at \$1.50, or \$300 per year. Adding together the \$222 for team maintenance, the \$60 for interest and depreciation, and the \$300 for teamster's wages, we have \$582 per year; and since there are only about one hundred and eighty days actually worked, we find the daily cost to be \$582 divided by 180, or \$3.20 per team per day worked. With teamster's wages at \$1.25 per day the cost of a team per day is \$3. Those who are inexperienced are apt to divide by the full three hundred days, forgetting that whether hauling by contract, or working a team on a farm, there are a great many idle days.

It has been said that hauling costs farmers nothing, since the time so spent is rescued from idleness. It would be just as logical to assert that plowing and harvesting with horses costs nothing, since the time so spent is time rescued from idleness. The proposition is absurd.

When the contractor's teams are idle in the winter the feed account is manifestly less, but this is made up for largely by charging in the hostler's wages and barn rental. An experience of some twelve years has shown me that in the States of Washington and New York the average per diem cost of a working team is \$3 for each day worked when all charges are included. As a check on these figures it may be added that the cost of hiring a team (with driver) ranges from \$3 to \$4.50 a day, ordinarily being \$4 now in the United States.

Now we have a basis upon which to estimate the cost per ton per mile, for on an ordinary earth road 1 ton is a fair average load, as the 1,200 replies above quoted very correctly state. On such a road a good team will travel 10 to 12 miles to market loaded and return empty in a day—that is, it will do 10 to 12 ton-miles work in a day; and since it does this work at a cost of, approximately, \$3, we have an average cost for wagon hauling in the United States of 25 to 30 cents per ton per mile. This, it will be seen, is in substantial agreement with the estimates published by the United States Department of Agriculture. As above stated, I had found this to be the cost of hauling long before the data collected by the Department of Agriculture were published.

On hard, level, earth roads I have had $1\frac{1}{2}$ tons hauled by each team, thus reducing the cost per ton-mile to 20 cents; but there are not many such roads.

We come now to a consideration of the cost of hauling over macadam roads. Careful tests have been made by a great many experimenters upon the force required to pull a ton over different kinds of roads and

pavements. These experiments are made with an instrument called a dynamometer, which is nothing more than a huge spring balance.

On page 13 of my book on Economics of Road Construction I have published a short table which gives the average results of a great number of dynamometer tests. The table is as follows:

Tractive force required to draw a ton over different kinds of road.

	Pounds.
Street car track	20
Asphalt	25
Stone or wood block pavement (good)	30
Macadam or plank road:	
Good	35
Poor	50
Gravel, good hard road	75
Clay, good hard road	100
Earth, loose	300

We see from this table that on a good macadam road a tractive force of 35 pounds will pull a ton, as compared with 75 pounds on a good hard gravel road or 100 pounds on a good hard clay road. This shows conclusively that from two to three times as big a load can be hauled over macadam as over a first-class earth road. So when men talk about earth roads being just as good as macadam, provided the earth is hard and well drained, they betray an ignorance of facts well known to engineers. I have hauled thousand of tons over macadam roads, and I find, upon reference to my records, that the average load hauled by each team has been 3 tons besides the weight of the wagon, which is practically another ton. Over gravel roads I find that $1\frac{1}{2}$ tons is a fair load where there are any hills to ascend. It should be stated that grades of 5 to 6 per cent can be ascended on macadam where the load is 3 tons, although on the level I have often had teams pull 5 tons and occasionally up a hill with a 5 per cent grade.

In order to check the accuracy of these figures, I have abstracted the following European data from Circular No. 27 of the Department of Agriculture. This circular contains the reports of United States consuls in several European countries noted for their good macadam roads.

Country.	District.	Average net load hauled by 2 horses.	Average length of haul to market.	Distance traveled per day by a team.
		Pounds.	Miles.	Miles.
Belgium	Brabant and Namur	4,400	2	31
England	York (hilly)	4,500	5?	20
Do	Sheffield	4,480	6	.....
France	Havre	8,000	.....	.....
Do	Roubaix .....	.....	4.4	.....
Germany	East Havel	5,500	.....	.....
Do	Zehlendorf	6,000	6.8	.....
Do	Frankfort-on-the-Main	7,280	8	24
Do	Hanover	12,000	.....	22
Do	Brunswick	7,000	.....	.....
Do	Plauen	4,400	2	.....
Do	Mannheim	6,000	20	.....
Do	Stettin	7,000	.....	.....
Italy	Milan	8,800	10	.....
Sicily	Catania (mountainous)	3,000	20	.....
Switzerland	St. Gall	5,500	.....	25
Do	Hargen	5,510	13?	26
Average of all districts		6,210	.....	24.7

In these figures we find perfect agreement with the data that I have given for American macadam roads, for we see that the average of the above is 3.1 tons per team. For those who desire a further confirmation of these data I suggest a study of the tractive power of horses. Dynamometer tests have shown that the ordinary horse traveling at a walk can exert a tractive or pulling force of one-tenth its own weight; hence, a horse weighing 1,200 pounds can exert a pull of 120 pounds for ten hours without exhaustion; a horse weighing 1,500 pounds can exert a pull of 150 pounds steadily for ten hours. As every one knows, although many fail to consider the fact, a horse can exert about four times the tractive force just mentioned for a short time. Thus some dynamometer tests of the United States Department of Agriculture show that a light team exerted a pull of 1,000 pounds for a short time, or 500 pounds per animal.

I have had a team pull a load of 10,000 pounds up a 5 per cent grade on a good macadam road, which checks these figures for short efforts. The resistance to pulling up a hill is 20 pounds for each ton for each 1 per cent of grade. Hence, if we have a 5 per cent grade, the resistance of the grade is 5 times 20, or 100 pounds. Now, if we add to this the rolling resistance over good macadam, which, as given in the table above, is 35 pounds, we have a total resistance of 135 pounds per ton, which we see one horse could pull without turning a hair; and by a little extra exertion the horse could pull 2 tons up such a grade, or by very great exertion about 3 tons. Thus true theory checks up with practice, as true theory always does.

Now, if a good macadam road enables 3 tons to be hauled to market where 1 ton is now the average load, we have, by the following very simple computation, a cost of 8 to 10 cents per ton-mile over macadam; for a team costing \$3 a day travels 10 to 12 miles and return with 3 tons of produce; or it hauls 30 to 36 ton-miles for \$3, which is 8 to 10 cents per ton per mile, as compared with 25 or 30 cents over common earth roads, and 17 to 20 cents over the very best gravel roads. In the face of the knowledge of these facts I have little patience with those who insist that earth roads are good enough for America and American farmers.

As to the average length of haul of farm produce I can speak with less authority. Indeed, no one outside of the United States Department of Agriculture has ever attempted to gather any reliable data on the subject of average haul. To solve the problem mathematically we should know the number of tons hauled from each farm and the distance hauled. We should multiply the tons from the first farm by the miles to market, and do likewise with the second farm, and the third, and so on to the last farm. Then we should add all these products together and divide by the total number of tons hauled; this quotient would be the average wagon haul in the United States. This has never been done, and it is not likely that it ever will be done; but I am inclined to accept the figures given by the Department of Agriculture for the Eastern States, namely, 6 miles, as being approximately correct for the great bulk of the produce hauled to market throughout the United States.

The building of macadam roads will obviously increase the average wagon haul in the United States, just as it has in Europe; for now only those farmers who are very close to market or railroad stations can afford to haul such bulky products as sugar beets and the like.

A number of years ago I compiled an interesting table that shows the relative weight of products per acre. This table shows what very fertile land, carefully managed, will produce, and not what the average acre does produce at present. Thus, in Illinois the output of wheat per acre under cultivation is about one-third that given in the table; but for purposes of comparison the table serves its purpose:

Crops which may be produced on rich land under favorable conditions.

	Tons per acre.
Wheat	1
Corn	2
Potatoes	8
Carrots	15
Sugar beets	18
Turnips	20
Cabbage	25

Those who attempt to discuss the road problem often ignore entirely the character of the crops; a man living in a wheat district is apt to estimate all haulage on the basis of wheat, forgetting entirely that for every 100 bushels of wheat hauled in the United States there are about 40 bushels of potatoes. On a farm of 160 acres all planted in wheat, there may be only 50 or 60 tons to haul to market each year; and if a team can make one round trip a day with a ton at a trip, only 50 or 60 team days will be required. But the same acreage planted with potatoes would keep one team busy for a whole year steadily, rain or shine, Sundays and holidays. A cabbage farm of that size would keep three teams busy a year. Is it not clear that the kind of crops a farmer can profitably raise on a given acreage is very materially dependent upon the distance to market and the kind of roads? Improving the roads means the raising of more profitable crops than ever before.

In order to deliver milk and garden truck profitably either very short hauls or very good roads are absolutely essential, but it is just such products that give the farmer cash when he most needs it; that is, every week. A macadam road actually shortens the distance to market where light loads are hauled. How? Simply because a team that can haul 3 tons at a walk over a macadam road can haul 1 ton at a trot. The speed of horses at a good walk is 250 feet a minute, but the speed at a jog trot is 500 to 600 feet a minute. Macadam enables a team to trot with a load of a ton or less. Hence it actually cuts in two the time required to reach the market, which is equivalent to reducing the distance one-half. I have determined this in practice time and again, and any farmer living on a macadam road knows it to be a fact.

The question is often asked whether a macadam road benefits the man whose farm is half a mile or more to one side of the road. As we have seen above, a team can exert four times its average pull for a short distance; hence, for half a mile a team can pull a heavy load of 3 tons or more over a fair earth road, for it only takes fifteen minutes to travel a half mile, and after that a team has an easy pull for the rest of the way. It is no more necessary to have a macadam road to every farm door than to have a railroad to every door. In New York State, for example, there is 1 mile of railroad to every 10 miles of wagon road. It will probably reduce the present cost of wagon haulage by one-half if 1 out of every 10 miles of wagon road is macadamized. I believe the reduction in cost can be profitably

carried still further by laying a single track of macadam 8 feet wide, with macadam turnouts 16 feet wide every eighth of a mile apart, on the less traveled side roads. There is absolutely no necessity of building every macadam road with macadam 12 to 16 feet wide, regardless of the traffic to be served.

Summing up, we may say that theory and practice in Europe and America prove conclusively that hauling over good macadam roads costs from one-third to one-half what it costs over good earth roads. When earth roads are turned to mud by rains, as they are for many weeks in the year, the cost of wagon hauling is just 60 cents per ton mile, according to records that I kept of a season's work in the mud near Otisco Lake, New York, and there were no hills to ascend. There are times when hauling can not be done with wagons at any price where mud roads exist. It may be safely said that the building of macadam roads in America will enable a team of horses to haul 3 net tons on the average of all roads, as compared with 1 ton, which is now the average on earth roads.

Respectfully submitted.

HALBERT P. GILLETTE,
Member of Committee of National Good Roads Association,
from New York.

STATEMENT OF WALTER P. RECKFORD, OF MARYLAND.

WASHINGTON, D. C., January 26, 1904.

As a delegate from Maryland and a farmer, I want to say I greet the coming of good roads by the assistance of National aid as one would light after being in darkness. We have always known our misfortunes and have striven, but in vain, to better our condition, but our efforts have fallen short on account of funds. Often have we planned aid, but never could there be sufficient secured to avail much. Some five years ago, through the cooperation of our county commissioners, we secured the assistance of the Road Inquiry Office of the Department of Agriculture in constructing for us a short piece of road, the county of Baltimore defraying the expenses, which road to-day, without any expense for maintenance, is solid and smooth, almost as good as when built, and being built upon a road very much traveled, that previously was almost impassable in the spring of the year, demonstrates to us the benefits to be derived.

On good roads two horses will draw as much load now as four or five could do before, and besides this saving of cost of transportation of farm products, property along it has increased in value 50 per cent and is being sold now to the same parties at the advance who refused to buy before the good road was built.

In our State good farms have been practically abandoned on account of the condition of the roads. The farmers can not get their produce to the markets without a great cost of teams and wagons.

If our Representatives in Congress could see the condition of our roads in the spring upon which the rural mail routes are and have to be established, they would at once conclude the necessity of National aid, if only as an economy in that particular.

WALTER P. RECKORD,
Govanstown, Md.

NATIONAL AID TO ROAD IMPROVEMENT AS A MEANS OF AGRICULTURAL AND INDUSTRIAL DEVELOPMENT.

The good roads question is not merely a local one. It is a general question of National importance, affecting the prosperity and progress of the Nation and the welfare of all the people. There is no question which to-day is of so much importance to the United States. The solving of the problem of securing improved public highways will be the solution of very many other problems affecting our social, educational, agricultural, and industrial life. While the public highway is a local road in one sense, the highways together are National. The development of an industry, which the National Government in its fiscal policy promotes, develops directly but one or at the most a few communities, but that development influences the growth and welfare of the whole Nation. So it is with the improvement of a harbor or a river, or the promotion of irrigation in a single section.

My interest in the public-road question is in its influence upon the development of the agricultural and industrial interests of the people. I have made a careful study of it in connection with other influences at work in promoting the development of the resources of a wide territory in the regular line of my work as industrial agent of the Southern Railway, which traverses a wide area of the country, entering, as it does, eleven States in the South and the Mississippi Valley; and I am convinced that the thing which will do most to promote the prosperity and development of those regions and every section of the United States is to provide a system of improved highways reaching out into the farming districts. City development will take care of itself. Indeed, it has gone on in the past at the expense of rural development, principally because the great burden upon agricultural communities of wretched public roads, of transportation to the towns and railroad stations, has kept back agricultural development.

It is universally admitted, I believe, that the development of the railway and water transportation facilities has been the most potent factor in the great progress which this country has witnessed. The National Government has recognized this in the aid it has given to the improvement of these facilities. The improvement of our highways will mean the rounding out of our transportation facilities, the giving to remote districts adequate means of reaching markets and distributing centers, and will perform a like service in the National development. The policy of the National Government in times past and to-day is to so use the National funds placed at its disposal by the people for National purposes and to so shape its fiscal and other legislation as to promote the development of the agricultural, commercial, and industrial interests of the country. Rivers and harbors are improved, not because they are the property of the National Government, but because their improvement will assist in the development of the commercial and other interests of the Nation.

Light-houses are built and maintained, the Life-Saving Service upon the lake and sea coasts is kept up, the Hydrographic Bureau is provided, because they are aids to commerce and so assist in our National development and progress. The transcontinental and other railway lines were given Government subsidies because they would promote the interests of the country. The Congress has declared in favor of the

policy of assisting the irrigation of arid lands, not because it is desired to promote the settlement and upbuilding of the particular section most benefited, but because such development is of National interest. The United States has decided to build the Isthmian canal to promote the development of the country. No other reason would justify that. Because National aid in establishing the system of improved highways throughout the country will promote the general development of the whole country to such a degree as no other public improvement, it should be given.

The States and local communities are not able to carry on successfully this desired movement. It is too big for them. And as it is too large for them to handle alone, its importance as affecting the prosperity of the whole country not only warrants but demands the assistance of the National Government. With such National assistance in highway construction, to cooperate with the efforts of the States and the counties, a new force will be added to our National energy, which will promote the most rapid and most marked development of our agricultural and industrial interests. It will add millions of dollars to the value of farm lands, and increase to a remarkable degree the annual agricultural productions of the country. This is not mere theory; it is the logical inference from actual experience in the communities where good roads have been constructed, and from a knowledge of the vast areas of available farm lands which are either wholly or partially unproductive, very largely because of the immense tax which bad roads puts upon their cultivation.

The people are suffering from wretched roads, and in every section of the country. My observation in the Southern States is that they are trying locally to solve the problem of doing away with poor roads, and are to a great extent willing to tax themselves to the utmost possible degree to provide improved highways. We have counties along the lines of the Southern Railway which in the past few years have voted all the way from \$100,000 to \$300,000 for improved highways. The improvements are adding 50 to 100 per cent to farm values, and they are extending a great influence upon other counties or communities. If the National Government will extend its aid to the States in constructing roads, that aid will not only assure the building of the roads for which it is spent, but will cause the people who see more and more of the advantages of goods roads to exert themselves to the utmost in helping themselves. National aid will solve this problem within a few years; no National aid means that it will not really be solved for a generation or two.

The Southern Railway has spent within the past three years many thousands of dollars in practical demonstration work to aid the people along its lines in solving the road problem, simply because it means development of natural resources and opportunities. Other railroads have also expended money in the same direction. Surely the returns to the people of the United States from the development which will follow highway improvements are worth enough more than the returns to railroad companies from such expenditures to justify liberal National appropriations for road building.

M. V. RICHARDS,
Land and Industrial Agent Southern Railway.

STATEMENT OF THE MASSACHUSETTS HIGHWAY COMMISSION.

The Committee on Agriculture of the United States Senate.

GENTLEMEN: The following letter, copies of which have been sent to each Senator and Representative in Congress from this State, expresses our views on the subject of National aid to road improvement:

DEAR SIR: With the hope of securing your support of some bill that will establish a good-roads bureau and make appropriations for building good roads in cooperation with the different States, the Massachusetts Highway Commission reminds you that Government aid is no new principle in the United States. For more than one hundred years aid of this kind has been given to highways, waterways, and steam railroads. "It has been the means of a more rapid development of the country's resources than was possible for the imagination to conceive." Extended at the right time it has opened up new territory, increased the facilities for commerce, and placed the products of American farms and workshops in all the markets of the world. Without this aid millions of acres of productive land would now be in a state of nature, instead of supporting a population of nearly 10,000,000 souls.

The cost has been great, but the returns have been even greater. The saving to the Government in the cost of transportation has been, in some instances, more than sufficient to pay the interest and sinking-fund requirements of the loan.

We will enumerate some of the projects of this kind: The National road, costing seven millions of dollars; river and harbor work, costing millions of dollars; and the vast subsidies and land grants to different railroads. These few cases are sufficient to convince you that the principle is an old one and may be said to be the settled policy of the United States.

The building of a road from tide water to the Ohio country was a pet project of Washington. Such a road was necessary when the Ohio country was being developed. It could not be built by private capital, as there would be no return commensurate with the cost. If it was to be built the Government alone could furnish the means.

This road was begun in 1811 and finished in 1818. The United States paid \$7,000,000 for building it. From the date it was finished to 1852 it was the one great highway over which passed the mails and the bulk of trade and travel between the East and the West.

It is impossible to state in dollars and cents the value of this road, but the rapid growth of Baltimore and the development of the Ohio country would show that no mistake was made.

To attempt an analysis of the benefits of the river and harbor work and its results would necessitate a history of our foreign commerce, of our vast food-producing Western country, and of our wonderful railroad system. Private capital could not be obtained for these purposes. The subject was too broad to be dealt with by others than the Government. It alone could do it. It has done it, and the benefit to the country is incalculable.

The policy of granting Government aid to railroads was inaugurated in 1850. The first aid was in the making of surveys from the Mississippi westward to the Pacific Ocean. Several such surveys were made in the early fifties, for which appropriations aggregating \$340,000 were made. These surveys were made under the direction of army

officers who afterwards acquired fame, and include such names as John C. Fremont, J. W. Gunnison, A. W. Whipple, and John Pope.

The Lewis and Clark expedition to the Pacific slope, starting in 1804, required two and one-half years. For one year of this time the party was not heard from, so great were the difficulties met with in the country they were exploring.

One of the great problems of the civil war was the knitting together of the different parts of the country, particularly the East and the West.

The policy of the Government was changed when the first charter was granted to the Union Pacific Railroad by Congress. Accompanying this charter was a land grant and subsidy, which made the railroad a possibility.

The country through which the greater part of the railroad was to be built was an unknown and almost uninhabited wilderness. Much of it was mountainous and barren. The entire population from the Missouri River to the easterly boundary of California did not exceed 200,000, and more than half of these were in the country bordering on the river.

The same kind of aid given to the Union Pacific Railroad was given to the Central Pacific, the Northern Pacific, the Southern Pacific, the Texas Pacific, and other railroads.

The cost of these railroads aggregated \$700,000,000; man can not figure their value to the country or the world. To the Government alone the cost of sending freight was reduced from \$350 or \$400 to about \$30 a ton, and a proportionate saving has been effected on the transportation of the mails and of men.

The Northern Pacific Railroad was finished in 1883. It traverses what are now the States of Minnesota, North Dakota, Montana, and Washington. The population of these States in 1870, when work on the railroad was begun, was about 500,000, and it is now over 2,830,000. The value of the farm property in 1880 was between \$300,000 and \$400,000, and is now nearly \$1,306,000,000. In 1880 the entire wheat crop of this section amounted to about 335,000 bushels; now there are nearly 200,000,000 bushels raised each year.

Enough has been said to show that the strong arm of the Government must be stretched out to support undertakings that can not otherwise be carried out, and when such support is wisely given wealth and prosperity follow.

You will pardon us for reminding you of portions of the country's history which are probably already familiar to you. This course seems to be necessary in order to obtain from you a careful consideration of the proposed extension of the Government aid policy to the improvement of the public highways.

It is safe to say that the United States stands alone as the only great civilized Nation that does not give financial aid for the building of highways. In proof of this you are referred to the consular reports on foreign roads, printed by the Government in 1891 and containing information secured by the Department of State.

The vast amount of freight carried by the largest and best railroad system in the world has to be transported at least once over certain highways. This length of highway haul is uncertain and varies much, but in the aggregate it is enormous.

The tax to the individual or community due to bad roads may not

be figured out, but it must be great. Thousands of dollars are expended by the railroads to reduce the cost of moving freight a fraction of a cent a mile, but the old, costly, and worthless methods of road building, which were discarded by foreign countries a century or more ago, prevail in most of our States.

The money appropriated for roads is largely wasted, for the reason that the local roadmaster knows not how to properly expend it.

A few of the States have undertaken to extend aid for the building of roads. Wherever this has been done it has worked a revolution. The object-lesson roads have shown what can be done. The roads built have convinced the most skeptical that they not only cost less to maintain, but reduce the cost of hauling from 25 to 50 per cent. The object lesson is oftentimes all that is needed.

There are, however, communities within a State and States within the Union whose financial strength is insufficient to cope with this problem. The State, if financially able, can take care of its weak communities. The Government must come to the assistance of the financially weak States in precisely the same way it did in carrying out its railroad policy. The necessity exists. The Nation is repaid for expenditures of this kind by increased prosperity, by enhanced values, and by a general raising of the moral, the religious, and the educational tone of its people. We believe the Brownlow bill requires some amendments, as the original bill conflicts with the laws of this Commonwealth, and would prevent Massachusetts from becoming a beneficiary under it. The amendments which we have taken the liberty to suggest remove these legal difficulties and place Massachusetts on the same footing as the other States.

Will you give this your earnest consideration and do what seems best to you when this matter comes up before the proper committee?

Respectfully yours,

W. E. MCCLINTOCK, *Chairman.*
HAROLD PARKER,
JOHN H. MANNING,
Massachusetts Highway Commission.

STATEMENT OF THE HIGHWAY COMMISSIONER OF VERMONT.

STAMFORD, Vt., January 22, 1904.

The Committee on Agriculture of the United States Senate.

GENTLEMEN: It seems to me that there can be no doubt that the principles involved in the Brownlow bill and other bills now pending in Congress providing for National aid to road improvement are correct.

While the people of this country have been expending their energies and means in contributing the best system of railroads upon the earth, there has been little attention given to building highways according to modern ideas. There has been no adequate system for maintaining them, and their condition in this age of general development and improvement is a disgrace to a civilized Nation.

The people are realizing the situation and chafing for relief. Cities and large villages, as a matter of economy and necessity, are building streets of solid pavement.

In the rural sections the greatest burden resting upon the people is the use of poor roads and the yearly expense of maintaining these bad roads.

How to build and maintain good country roads that connect village with village, that extend from town to town, and bind State to State is the great road problem. State aid to towns for this purpose is recognized as correct in principle by the States that have taken up the subject, but the magnitude of the undertaking and the expense necessary to carry out the enterprise raise grave questions. If we rely upon State aid we face the question of taxing cities and large towns for a large portion of the expense for building country roads in rural sections, when these municipal governments are already carrying heavy debts incurred in building in permanent fashion city streets and other modern improvements made necessary by our advancing civilization. There is probably no better example of successful highway improvement by State aid in constructing and maintaining modern public highways than the work done in Massachusetts under a State highway commission, and yet after ten years of operation the governor of that State in his recent message to the legislature says "the main work of constructing the highways is one that can not be completed in many years, if ever," and recommends caution, in view of the increasing debt incurred for this purpose.

It seems to be settled beyond argument that the public roads in this country are to be improved. Argument is all on the affirmative side, and there is no opposition. The only question to settle is of ways and means, and the attention of the people is being directed to the National Government for aid to road improvement.

In other countries that are famed for their good roads the general government is a large factor in road building and maintenance. Nearly a hundred years ago our National Government was engaged in projecting and building extensive systems of public highways to develop the resources of the country, and probably would have continued such policy but for the rapid growth of steam railway systems that seemed better adapted to the needs of the expanding business and the increasing traffic of the country.

Within recent years, in the United States Department of Agriculture, the Office of Public Road Inquiries was established, and it is maintained by yearly appropriations from the public Treasury, resulting in great good in promoting road improvement, and there has been an increasing demand upon this office, not only for literature and advice, but for material assistance.

In responding to the people's call for Government aid, there has been made a safe and healthy beginning, and it seems an opportune time to enlarge and extend the work.

Very truly, yours,

J. O. SANFORD,
State Highway Commissioner.

VIEWS OF HON. HENRY I. BUDD, COMMISSIONER OF PUBLIC ROADS OF NEW JERSEY, COPIED FROM HIS ANNUAL REPORT FOR 1902.

The United States Government has now irrevocably committed itself to the policy of devoting a large part of its surplus to the development

of public utilities. It is each year spending millions of dollars dredging and deepening our waterways, aiming to render them easily passable for our rapidly growing foreign and domestic commerce.

Last winter the Government passed an irrigation bill, devoting millions of public funds toward watering, and thereby making fertile, large areas of arid lands of our Western States and Territories.

The first great internal improvement inaugurated by this Nation was the National pike, the act for the laying out of which was approved March 29, 1806. The first thing done by our Government when it took possession of Porto Rico was to appropriate a million dollars for the construction of good roads. Among the first and most continuous work of General Wood in his administration of the affairs of Cuba was the spending of millions of dollars in macadamizing the streets and roads of Cuba. The National Government last year appropriated sixty million dollars for the improvement of our rivers and harbors, and yet 95 per cent of the commerce benefited thereby had to be hauled over the common wagon roads first.

Wherever governments have turned their attention to the building of hard roads under the patronage of the State great systems of improved roads have resulted, which have always added largely not only to the convenience of the inhabitants, but to the general wealth of the public. In no way can our Government add so rapidly to the prosperity of the Nation as by contributing of its surplus to the macadamizing of the leading highways of the settled portions of the country, and thus enable the present generation to save millions in transportation and also make the sections already partially settled so desirable that the inhabitants thereof will not wish to leave them. There is not much hope of general road improvement in this country until the National Government, as in ancient Rome and modern France, becomes their foster mother. Therefore, would it not be wise for our National Government to offer to each State a portion of its rapidly accumulating surplus for the improvement of the common roads on the basis of helping those that help themselves? That is, for every one or two dollars expended by each State in this direction the General Government should bestow \$1. This plan, if adopted, would in a few years give us a network of improved highways, connecting all our leading centers of commerce, over which would pass a far greater tonnage of merchandise than this or any other Nation has ever known, thus adding so rapidly to our wealth that we would become at once the envy and admiration of all Nations.

STATEMENT OF MR. P. H. HANES, OF NORTH CAROLINA.

As a member of the legislative committee selected by the annual meeting of the National Good Roads Association held at St. Louis, Mo., April 27-29, 1903, I appeal to you in behalf of that great organization and the people of my own State—North Carolina, which I more particularly represent—to assist us in the improvement of the common roads of the country, by giving us National aid, as is asked for in the resolutions presented.

The great majority of my people live in the rural districts, and the farmer, mechanic, merchant, banker, and professional man all alike realize the need of better roads, and are therefore deeply interested in this measure. Within the past decade North Carolina has built, at a very heavy burden of expense, several hundred miles of macadam and other kinds of first-class country roads. This has been done with funds raised by direct taxation, the issuance of bonds, and by voluntary contributions from private individuals and corporations, supplemented by the use of a force of about 5,000 State convicts.

The majority of our 97 counties levy a road tax of 10 to 20 cents on the \$100 worth of property, making an annual income for road building of from \$2,000 to \$30,000, and as a result each county is annually building from 1 to 10 miles of stone road. Mecklenburg—the banner county—raises annually from \$50,000 to \$60,000 with a tax of 35 cents on the \$100 worth of property and \$1.05 on the poll, thereby enabling the authorities, with the use of convict labor, to build 25 to 30 miles of first-class macadam road annually. It is estimated that our bad roads impose a debt or tax of from \$5,000,000 to \$10,000,000 on our people, which is a far greater amount than it would cost to improve the roads.

While North Carolina leads all other Southern States in the progress made in road improvement, there is still greater room for advancement along this line. It is to the Office of Public Road Inquiries of the United States Department of Agriculture that much credit is due for valuable assistance rendered, particularly in connection with the National Good Roads Association and the Southern Railway Good Roads Train, in supervising the construction of a section of object-lesson macadam roads, according to the latest scientific methods, in each of the counties of Buncombe, Forsyth, and Wake, and also for arousing renewed interest among our people for the accomplishment of still greater results which have followed.

Within the borders of my State there is well distributed a great abundance of good road materials, including chert, trap rock, gravel, sand, and clay, and oyster shells, all of which are being more or less utilized to improve the highways; and since the agitation of the good roads question began more earnestly, our corps of engineers and road experts is being enlarged by the education of some of our brightest young men in the science of road building at the Agricultural and Mechanical College and other institutions of the State.

Our greatest need is more money in order that greater results may be accomplished, and it is to you that we come for assistance. We are not only willing but are ready for National aid, and will cheerfully match every dollar that you will give us for this just cause.

The great surplus now in the United States Treasury came from the people and, as it is not needed there in time of peace and prosperity, it should be given back to the people; and we claim this can be done in no better way than by aiding in the improvement of our country roads. The roads are a benefit to all, and a share of the burdens of their construction and maintenance should be borne by the whole people through National aid instead of being borne entirely by those living in the rural districts in proximity to the roads to be improved.

My people are not wedded to any one particular bill of the many that have been introduced in Congress, but what they want is substantial encouragement to stimulate them to greater activity in road

improvement, and I therefore ask you to enact such laws as will give us National aid in some shape, which will enable us to do this at a less burden to that class of people which are least able to endure it.

I am assured that the entire delegation in Congress from North Carolina will do all it possibly can to secure assistance from the Federal Government for the improvement of the public highways.

I wish to conclude what I have to say with this statement of the

REASONS WHY FARMERS SHOULD FAVOR GOVERNMENT COOPERATION.

The rapidity with which the sentiment in favor of national aid to the common roads of the country has spread, and the eagerness with which the proposition is welcomed since the introduction of the first bill in Congress by Mr. Brownlow, of Tennessee, have not only been highly gratifying to the friends of the measure, but surprising and astonishing to its opponents. The truth is the great body of the farmers of the land are slow to demand what is justly due them. Had the same necessity as the want of good roads among the farmers existed in relation to the manufacturing, mining, or commercial interests of the country, such a necessity would have long since been recognized and met by adequate appropriations from Congress. The tillers of the soil do not work in concert for their own advantage.

By the census of 1900 the whole number of people above the age of 10 years engaged in gainful occupations in the United States was 29,074,117. Of this number 10,381,765 were engaged in agricultural pursuits. In 1890 the whole number engaged in gainful occupations thus was 22,735,661, of which 8,565,926 were engaged in agriculture. The percentage of those engaged in agriculture in 1890 was 37.7 per cent and in 1900 only 35.7 per cent, a considerable decrease.

No other specified occupation employs as many. The manufacturing and mechanical pursuits employ 1,085,992 persons; trade and transportation, 4,766,964, and professional service, 1,258,739. And yet the farmers of the country, who contribute more to its permanent prosperity than all other classes combined, have the smallest amount of consideration in the matter of Congressional appropriations. In all the history of the past legislation of the country, but few efforts have been made to equalize the benefits of Congressional appropriations. Until the rural mail routes were established a citizen living in the country rarely received direct benefits from the money expended by the General Government, except that for the Agricultural Department.

It must not be imagined that anyone proposes that the Government shall enter upon the work of building public highways without the cooperation of the State, county, or other civil subdivisions. The policy of the Government should be to help those communities that help themselves; to stimulate action and enterprise rather than to repress it by appropriating money to those communities that do nothing for themselves.

Very respectfully,

P. H. HANES,
President North Carolina State Good Roads Association.

JANUARY 26, 1904.

SOME REASONS FOR NATIONAL AID.

The chairman and members of the Committee on Agriculture of the United States Senate.

GENTLEMEN: I wish to respectfully submit for your consideration a few of the reasons why I believe the Government of the United States should cooperate with the States and Territories in the improvement of the country roads.

THE DEVELOPMENT OF AN IDEA.

The idea of National Government taking an active part in the construction of the highways, so popular three-fourths of a century ago, has for several decades been considered obsolete. But the interest manifested in the various bills which provide for National aid to road building shows that this idea is very much alive. Indeed, the popular interest in the subject is a source of surprise to those who have not been giving the matter attention. This interest is by no means a sudden development either. It has been growing steadily for a number of years.

It is now ten years since the popular demand that Uncle Sam do something to help the people out of the mud led to the establishment of an Office of Public-Road Inquiries in the United States Department of Agriculture. The work of this office was intended to be purely educational in character. It was to collect and disseminate practical information concerning the roads of the country and means and methods for their improvement. The first work of this office was to prepare and publish a large number of bulletins and circulars treating on the various phases of road building and improvement. This work occupied several years, and it was well done. If the roads in most parts of the country remain bad, it is not for the want of information as to how they may be improved in the best and most economical manner, for Uncle Sam's "good roads" office is an excellent "information bureau" on the subject.

But the work of this office did not stop here. The educational idea was carried further, and during the past three years the object-lesson feature has assumed greater importance. The idea as carried out is very simple. When the people of some progressive community or the authorities of some educational institution want a piece of road built to illustrate the benefits of good roads and the methods of building them, application is made to the Department of Agriculture, and, whenever possible, a Government expert is sent to supervise the work. This idea has proven extremely popular. Inside of four years object-lesson roads have been built under Government supervision in twenty States, and so great has been the demand for National aid of this kind that a large number of applications have to be refused every year because the funds appropriated are insufficient to employ enough experts to do the work. Already Congress has four times increased the appropriations for this work, but the amount now appropriated annually proves wholly inadequate to the demand for this educational work.

Recently a number of prominent and progressive railroad men have been giving the road question some study, and have come to the conclusion that the improvement of the roads in the territory tributary to

their lines would materially increase their business. So popular has this idea become that the officials of some of the leading railways have come forward with offers to cooperate with the Government in the object-lesson work. This assistance takes the form of a "good roads train." Another voluntary factor in this cooperative work is the manufacturers of road-building devices who desire to bring their machinery to the attention of the public. In this cooperative work the Government furnishes the experts, the manufacturers the machinery, and the railroad company the transportation. A tour is planned and arrangements are made to hold good roads conventions at a number of points, at each of which a model road is to be constructed, the local authorities assuming the burden of expense for labor, material, etc. A good roads train is in fact a sort of traveling exposition. Senator Daniels, of Virginia, has referred to it as a "college on wheels." The object is to educate the people in both the theory and the practice of road building. The most valuable examples of work of this kind up to the present time are that done by the Illinois Central good roads train in 1901, and that done by the Southern Railway good roads train during the winter of 1901-2.

It should be borne in mind that all the work of this kind done by the Government is in the nature of National aid. There is, therefore, nothing new in principle in the bills recently introduced in Congress providing for National aid of a more extensive and substantial character. It is proposed that the Government shall no longer confine its assistance to educational work; that it shall furnish not only information and supervision, but financial assistance. Under certain limitations the National Government will cooperate with States and counties in the improvement of the common roads, each assuming a certain proportion of the expense.

If the educational work done by the Government in recent years has done so much to encourage and stimulate road improvement, what may we not expect from this great extension of the principle of National aid? The large fund which Congress will appropriate for this work will be divided among the States in proportion to population. But no State can secure its share except by complying with the conditions prescribed, the chief of which is that it shall raise a like sum for the same purpose. Instead of discouraging State effort this should greatly stimulate it. Again, if a State takes no action looking to the acceptance of the Government's proffered help the individual counties may do so, and this again will create a rivalry among the counties in their efforts to secure a part of the National fund for the State.

AN OLD POLITICAL ISSUE REVIVED.

In the early days of our National history, whether the General Government should take a hand in making internal improvements became one of the great political issues. The matter was fought out in Congress and in political campaigns, and finally settled in the affirmative. Among the improvements discussed the building of roads was probably the most important. Plans were made for connecting the different parts of the country by National highways. The National Pike was built from Cumberland, Md., to the Ohio River and then westward.

The plan was to build to St. Louis, but before that point was reached the building of steam railroads had begun and the people lost interest in the road question.

In these days, when river and harbor bills are looked upon as a matter of course, and National aid to road improvement is considered a novel proposition, it is interesting to recall that the question of road building by the Nation was a great and burning issue long before river and harbor bills were ever heard of. It is also worth noting that presidents were vetoing river and harbor bills as unconstitutional long after National aid to road improvement had become a settled policy.

It does not seem probable that the question of constitutionality will ever be seriously raised against such legislation as that proposed in the Brownlow bill for National aid in the building of roads. It can be defended as strongly as river and harbor legislation under those clauses of the Constitution which authorize the Federal Government "to promote the general welfare" and to "regulate commerce between the States." But, in addition to these, it finds its strongest warrant in the authority conferred upon Congress "to establish post-roads," a provision that is growing in practical importance every year with the extension of the rural free-delivery system.

AN ERA OF ROAD BUILDING.

That the first quarter of the twentieth century will be a great era of road building in this country now seems probable. All persons who have given serious thought to the question are agreed on the following propositions: That road building in the United States has been greatly neglected; that we are far behind other civilized nations in this respect; that the general improvement of the highways throughout the country would do more to promote the welfare and happiness of the people than any other work which could be undertaken; and that the present is an auspicious time for inaugurating a National good roads campaign.

The last of these propositions is in some respects the most important, because on it rests the hope that something is actually going to be done. The last quarter of the nineteenth century was the great era of railroad building, but that has now passed into history. Of course, we are still building railroads, and will continue to build them for ages, but never again on the enormous scale of the past thirty years. The necessity and the opportunity no longer exist. The energy, the enthusiasm, and the capital heretofore directed to the building of railroads is now seeking other channels, one of which is the building of improved highways.

It is no wonder, then, that thoughtful, progressive people are earnestly discussing the ways and means by which the highways of the country may be improved. The greatest obstacle to progress along this line appears to be that, under existing laws and conditions, no general movement is possible. Everything depends on local effort and local initiative. What is needed is National legislation which will stimulate action in all sections and coordinate local effort. At present those who have given the matter most thought are in favor of a National aid law similar to the State aid laws now in force in several States.

A NATIONAL PROBLEM.

It is claimed by some that the building of roads is strictly a local matter, that the benefits are entirely local, and that the whole expense should be borne by the local communities. This is not the view taken in the most progressive countries of Europe. There the building and maintenance of roads is one of the important functions of government. France, Germany, and Switzerland are covered by a network of the finest roads in the world. As a result the western half of Europe is the pleasure ground of the world. The revenue derived from tourists is one of the principal sources of income for people of nearly all classes. But without these good roads this revenue could never be secured.

The aim of the people in those countries is to make their grand mountains, their beautiful lakes, their lovely valleys, their castles and monuments easily accessible by means of fine, hard, smooth roads.

What a contrast appears when we turn to our own country. We have the finest scenery in the world in the great mountains of the West, but it is practically inaccessible. Except as they get glimpses of it from car windows the grandeur of our mountains and canyons, and the beauty of our mountain lakes, streams, and valleys are a sealed book to the general traveling public. And this will always be the case so long as steep, stony mountain trails are the only means of travel beyond the railway lines. Indeed, much of our finest scenery can not be reached even by such trails. If the United States Government, in cooperation with the States and local communities, would build great, smooth highways, making the wonders and beauties of our great West easily accessible to tourists, in a few years the tide of travel would be turned westward. Not only would millions of dollars spent annually by Americans in Europe be kept at home, but other millions would be brought to our shores by tourists from foreign lands.

But the natural attractions of our country are not the only things which are made inaccessible by the lack of good roads. Our places of historic interest are mostly in the same category. Take, for instance, Monticello, the home and tomb of the immortal Jefferson. Few Americans even know where it is, much less visit it. Monticello is only 3 miles from the city of Charlottesville, Va., which is on two great trunk-line railways. Why, then, is it so little known? Because 3 miles of about as bad road as can be imagined lie between it and the railway station. One can not travel over that narrow, steep, rough, muddy country road without a feeling of shame. At present an effort is being made by a small band of patriotic men and women to build what is known as the Jefferson memorial road to make Monticello accessible to the public, but only a beginning has been made, and they are finding it uphill work to raise funds to complete the task.

But, after all, the encouragement of travel is not the most important reason for the building of good roads. They are absolutely necessary for the prosperity and happiness of the people. The era of railroad building on a large scale is practically at an end. In the course of our commercial and industrial development we have reached a point where the great problem of improving the common roads must be faced. We can no longer treat it as a local question. We have tried that for three-quarters of a century, and in nearly every section of the country the miserable results are apparent. The good roads problem will never be solved locally. It is too vast. It can be solved only by the genius,

the wealth, the labor, and the patriotism of the whole people. A great National movement is necessary. In cooperation of the Nation, States, counties, and the local communities lies the solution of the problem.

RURAL FREE MAIL DELIVERY AND THE ROAD PROBLEM.

The remarkable growth of the rural free mail delivery system and the willingness of Congress to appropriate money for extensions faster than the extensions can be made have been surprising even to the most enthusiastic friends of the system. "Why, the thing is spreading like wildfire," remarked a gentleman who had been reading up on the subject; "at this rate rural free mail delivery will be universal in a few years." At first glance this view appears to be correct, but in fact such a view is merely superficial. It takes no great amount of investigation to convince one that the system must meet and overcome some very great obstacles before it can even become general, to say nothing of being universal. So far the system has sailed on smooth and open seas with favorable winds. But now it is rapidly approaching a region of rocks and snags and storms.

Dropping the maritime figure and coming back to terra firma, the great obstacle to the general spread of the rural free-delivery system is the miserable roads of the country. So far the system has only been extended to communities blessed with good roads. Among the many communities demanding the introduction of the system the Post-Office Department has been able to select those which have good roads, either as a result of favorable natural conditions or superior wealth. The less-favored communities which have been passed by have consoled themselves with the thought that their turn would come soon. But when these disappointed communities—and their number is increasing very rapidly—find out that they are permanently barred from enjoying the benefits of free delivery on account of the condition of their roads, a cry of indignant opposition will be raised; and it will grow into an angry roar above which it is doubtful if the friends of free delivery can be heard. When this storm breaks the beneficiaries of the system will be found to be a small minority and the disappointed a large majority of the rural population. Suppose the minority stands on its dignity and says: "What are you going to do about it?" What is to prevent the disappointed majority from wiping out the whole system and thus restoring "equality before the law?" Or, suppose the minority says, "Why don't you improve your roads and thus secure the blessings of free mail delivery?" The majority can answer, "In improving our roads we have to overcome greater obstacles, and our means are less. Why not help us improve our roads, through general taxation?" Such a demand as this is almost certain to result from the agitation for rural free delivery of the mails. And what is there unreasonable or unjust about such a demand? The general improvement of the roads of the country is a work too stupendous to be left entirely to the small municipalities. Besides, is it not more deserving of National aid than the building of the railroads and canals, and the improvement of rivers and harbors?

A proper distribution of the expenses of general road improvement among the Nation, the States, and the local communities appears to be the only practical solution of the road problem, and the road problem must be solved if rural free mail delivery is to be made general.

BAD ROADS A NATIONAL EVIL.

Many people look upon the road question as one which affects mainly if not wholly the people of the rural districts. This is a mistaken idea. Road conditions seriously affects the people of all towns depending on trade with the rural population. Bad roads hinder and depress local trade by making it almost impossible for the farmers to get to town sometimes for weeks at a stretch. This depression in turn affects the wholesale trade. Local dealers reduce their orders, are slow in making remittances, and have to ask for extensions of credit.

The business of the railways is also seriously affected. The farmers must haul their produce to the shipping points at times when the roads are in fairly good condition. This causes congestion of traffic at times and partial suspension at other times. As a result of this, the railway companies must have a great many more cars and engines than would be needed if the traffic were regular and uninterrupted by impassable roads.

The road question has an important influence on our National finances in much the same way as it affects railroad interests. It is well known that a large amount of ready money is needed in the fall of the year for "the movement of the crops." This always causes more or less stringency in the money market. Good roads would make it possible for the farmers to market their crops more at leisure, would greatly extend the time during which their surplus would be carried to market, and would relieve these periodic strains on the money market, which really have a depressing effect on the business of the whole country.

It can thus be seen that the effect of bad roads is far-reaching, affecting directly or indirectly the people of the towns and cities as well as those of the rural districts. The road question is, therefore, a National as well as a local question. As such it is a proper subject for consideration in the halls of Congress, and it is at last receiving the serious consideration it deserves.

DRIFT OF POPULATION TO THE CITIES—ITS CAUSE AND HOW TO PREVENT IT.

No tendency of modern times has caused so much uneasiness in the minds of social philosophers and reformers as the drift of population from the rural districts to the cities. That this tendency is deplorable is admitted on all hands, but there is no general agreement as to what should be done to discourage it. Recently, however, public speakers and writers have been insisting that the way to keep the bright young men and women on the farms is to ameliorate the conditions of country life. The extension of telephone lines into the country and the rural free mail delivery are steps in that direction. But the general improvement of the country roads would be a far more important step. Bad roads do more than anything else to promote ignorance, isolation, discouragement, and disgust among the country people. Good roads promote attendance at school and the church; they make social gatherings, literary societies, dramatic entertainments, and club and lodge meetings possible during the winter and spring. With bad roads the farmer is compelled to hibernate, socially, for three or four months in the year. With good roads, these months become the most pleasant and in some respects the most profitable in the year.

FEDERAL AID TO PROMOTE EDUCATION.

Improvement in the country schools is one of the strongest reasons for the systematic improvement of the country roads. Unimproved roads are perhaps the greatest drawback to the success of rural schools. When the season of bottomless roads arrives, the attendance at school becomes small and irregular, the classes become discouraged, and but little progress can be made.

One of the principal reforms of to-day consists in the consolidation of rural schools so as to do away with the greater number of small unsatisfactory schools and replace them with larger centrally located graded schools. This would reduce the expense and greatly increase the efficiency of the country schools. In many places the people have adopted the plan of sending out wagons at public expense to bring in the children on the various roads. But this plan is only feasible where the roads are uniformly good. Hence the bad roads which prevail in most sections are a great bar to educational progress.

Universal free education has been a cardinal principle in the American policy since the foundation of the Republic. The Government has at various times aided and encouraged public school education by grants to States of public lands the proceeds from which have gone into the school funds. In 1862 large grants of public lands were made to all the States to promote the establishment and aid in the maintenance of agricultural colleges. In 1890 a National law was passed providing for direct Federal aid to these institutions. Now, the appropriations under that law and the income from the land grants together amount to nearly \$2,000,000 annually in the way of Federal aid to agricultural education. This action not only furnishes another precedent for National aid to road improvement, but suggests as an additional and powerful reason for such action the great benefit to education in the rural districts which would result from such a policy.

AN EXAMPLE OF NATIONAL AID AND COOPERATION.

To many it will doubtless be news to learn that something very similar to the proposed cooperation of State and Nation has been going on for many years in the building of Mississippi River levees. In a recent report on this subject Col. Amos Stickney, president of the Mississippi River Commission, said:

The allotment for levees for the fiscal year ending June 30, 1903, was \$1,000,000, and the expenditure of a like amount under contract is authorized for the ensuing year.

The total amount expended by the United States upon levees from the beginning of that class of work in 1882 to June 30, 1902, is \$16,580,614. The total contents of levees along the Mississippi River is now about 170,000,000 cubic yards, about one-half of which has been placed by the United States, the other half being the work of State and local boards. The amount of money expended by these organizations is not known.

There are ordinarily no restrictions placed upon the expenditure of allotments, but all allotments are sometimes determined by the amount of work that local authorities can do in connection with or supplementing Government work to make it more effective.

The funds applied by the State and by local boards are understood to be derived from special taxes authorized by the respective legislatures.

Here we have just such a cooperation between the Federal Government on the one hand and the States and local communities on the other as is proposed in the Brownlow bill, although not carried out under specific act of Congress.

NATIONAL AID AS A STIMULUS.

A very important advantage that comes from State aid is intelligent supervision in laying out roads, selecting materials, and in methods of construction. This may mean all the difference between success and failure. Every year millions of the people's hard-earned dollars are wasted, virtually thrown away, in fruitless attempts to patch up bad roads, to fill mud holes, and to improve roads with unnecessary steep grades, all because there is no one in charge with the knowledge, judgment, and authority to do the work as it ought to be done.

One of the objections most loudly urged against both State and National aid is that it will encourage local communities to neglect the improvement of their roads and depend on the State and the Federal Governments to do the work for them. But this objection has proven to be purely imaginary. In no place where State aid has been tried has any such result appeared. On the contrary, aid from the State treasury only stimulates local self-help. It arouses warm competition among the counties and townships to secure a share of the State-aid funds. Instead of sitting down and folding their hands, as predicted, the local communities are raising a great deal more money under the stimulus of State aid than they did before.

What is said of the advantages of State aid applies all the more forcibly to National aid. Its effect will be far-reaching. It will quicken the pulse of the whole Nation. It will arouse universal activity. "Good roads" will become the people's watchword throughout the length and breadth of the land. A quarter of a century of work under National and State aid should give the United States the best system of roads in the world instead of almost the worst, as at present.

SUMMARY.

In conclusion, I wish to summarize a few of the principal arguments in favor of National aid and cooperation in road improvement:

First. The improvement of the highways throughout the United States is of too much importance to the moral and financial welfare of the people to be longer neglected. But the task involves a burden of expense which it is impossible for the rural population alone to bear. If left to them, the problem will never be solved. Therefore, in order "to promote the general welfare," the Government should lend a helping hand to the rural population in removing the curse of bad roads.

Second. Our system of tariff taxation is designed to foster and protect manufacturing industries. This system, which has had the enthusiastic support of a majority of the farmers, has tended to build up great industries and centralize wealth in the cities without correspondingly benefiting the agricultural population. It is, therefore, no more than fair and just that a portion of the revenues derived from such taxation should be used to develop the rural districts through the improvement of the country roads.

Third. The Government aided in the building of many of the greatest railroads, especially in the West, by grants of enormous areas of land and otherwise. Yet these roads are, without exception, owned by private individuals and corporations and operated solely for private gain. How much more necessary and proper, then, for the Government to aid and encourage the building of highways, which are public property, for the use and benefit of the people?

Fourth. The Government annually appropriates many millions of dollars for the improvement of rivers and harbors to facilitate commerce. But these appropriations are of necessity very unequally distributed, a few States receiving the greater part and many others receiving none whatever. But the improvement of the public highways is just as important to commerce, and a National appropriation for that purpose could be so distributed as to give each State its proper share.

Fifth. Money appropriated by Congress for other purposes only accomplishes results commensurate with the amount set apart; but money appropriated to aid and encourage road improvement would accomplish vastly more, because States and counties could only secure the benefit of this aid by contributing proportional sums. A National appropriation for this purpose would serve as a universal stimulus to road improvement.

Sixth. The free delivery of mail in the rural districts must always remain limited to those communities which, by reason of their wealth or favorable natural conditions, are able to have good roads. Other communities whose people are equally deserving, and whose contributions help to maintain the whole postal system, are deprived of the blessings of free delivery because of their poverty or because natural conditions make road improvement difficult and expensive. Here is a grave injustice which can be remedied in one of two ways: Either (1) the whole scheme of rural free delivery must be abandoned because it can not be carried out with equal justice to all the people, or (2) the National Government must help the less favored communities improve their roads, thus making universal rural free delivery possible. The fathers of the Republic provided for such a contingency as this when they empowered Congress "to establish post-offices and post-roads."

Very respectfully,

S. EDWIN THORNTON,
Member of Committee of National Good Roads Association, from Nebraska.

THE NATIONAL PIKE—A HISTORICAL SKETCH.

[From an article on "Progress of Road Building in the United States" in the Yearbook of the United States Department of Agriculture for 1899, written by M. O. Eldridge, assistant director of the office of public road inquiries.]

Early in the present century, with the movement started in England by Telford and Macadam in favor of broken-stone roads, the importance of improved roads for military, postal, and commercial purposes began to be widely appreciated. Road reform assumed such proportions that it was advocated by many of the great patriots of the day; indeed, the movement waxed so strong in this country that it became one of the leading questions of National politics, and was supported by such statesmen as Thomas Jefferson, John C. Calhoun, and Henry Clay. Next to the tariff, it was one of the most important subjects under consideration in Congress.

Those who believed in a liberal construction of the Constitution were favorable to the building of roads by the General Government, while the strict constructionists denied the power of the Government to spend money for any such internal improvements. During President

Jefferson's second term the bill admitting Ohio as a State, passed April 30, 1802, contained a provision setting apart 5 per cent of the net proceeds from the sale of public lands in that State to the building of public roads leading from the navigable waters emptying into the Atlantic to and through the State of Ohio—3 per cent for road making within the State and 2 per cent for highways outside the State. Such roads were to be laid out under the authority of Congress and with the consent of the States through which they would pass.

THE CUMBERLAND ROAD.

In 1806 the sale of public lands in Ohio had amounted to over \$600,000, and after some discussion in both Houses of Congress a bill appropriating \$30,000 was passed. The construction of the so-called Cumberland road was then begun. From Cumberland, Md., it was to extend through southwestern Pennsylvania and over the Allegheny Mountains to the Ohio at Wheeling, W. Va., and then on to St. Louis, Mo. It was constructed after the principles advocated by Telford and Macadam, and was so well built that it is yet a good road, although it has since passed into the hands of the States in which it is located, and has not been systematically repaired for years. This road was well described by a writer in 1879, as follows:

It was excellently macadamized; the rivers and creeks were spanned by stone bridges; the distances were indexed by iron mileposts, and the tollhouses supplied with strong iron gates. Its projector and chief supporter was Henry Clay, whose services in its behalf are commemorated by a monument near Wheeling. There were sometimes 20 gaily painted four-horse coaches each way daily. The cattle and sheep were never out of sight. The canvas-covered wagons were drawn by six to twelve horses. Within a mile of the road the country was a wilderness, but on the highway the traffic was as dense as in the main street of a large town. Ten miles an hour is said to have been the usual speed for coaches, but between Hagerstown and Frederick they were claimed to have made 26 miles in two hours. These coaches finally ceased running in 1853. There were also through freight wagons from Baltimore to Wheeling which carried 10 tons. They were drawn by 12 horses, and their rear wheels were 10 feet high.

From Cumberland to Baltimore the road, or a large part of it, was built by certain banks of Maryland, which were rechartered in 1816 on condition that they should complete the work. So far from being a burden to them, it proved to be a most lucrative property for many years, yielding as much as 20 per cent, and it is only of late years that it has yielded no more than 2 or 3 per cent. The part built by the Federal Government was transferred to Maryland some time ago, and the tolls became a political perquisite; but within the past year it has been acquired by the counties of Allegany and Garrett, which have made it free.

From 1810 to 1816 six appropriations, amounting to \$680,000, were made by Congress for continuing the work on this road.

PROPOSITION IN CONGRESS FOR A NATIONAL SYSTEM OF ROADS.

In 1817 John C. Calhoun, Henry Clay, and others favored the creation of a new fund for internal improvements. A bill was introduced in the House of Representatives by Mr. Calhoun to set aside for roads and canals the bonus and dividends received by the United States from its newly chartered National banks. In supporting this measure Mr. Calhoun, although a staunch believer in the doctrine of State rights, delivered a speech before the House in which he thus expressed himself:

Let it not be said that internal improvements may be wholly left to the enterprise of the States and of individuals. I know that much may justly be expected to be

done by them; but in a country so new and so extensive as ours there is room enough for all, the General and State governments and individuals, to exert their resources. Many of the improvements contemplated are on too great a scale for the resources of States or of individuals, and many of such a nature that the rival jealousy of the State, if left alone, might prevent. They require the resources and general superintendence of the Government to effect and complete them.

But there are higher and more powerful considerations why Congress should take charge of this subject. If we were only to consider the pecuniary advantages of a good system of roads and canals it might indeed admit of some doubt whether they ought not to be left wholly to individual exertions, but when we come to consider how intimately the strength and political prosperity of the Republic are connected with this subject we find the most urgent reasons why we should apply our resources to them. Good roads and canals, judiciously laid out, are the proper remedy. Let us, then, bind the Republic together with a perfect system of roads and canals.

The first great object is to perfect the communication from Maine to Louisiana. This may be fairly considered as the principal artery of the whole system. The next is the connection of the lakes with the Hudson River. The next object of chief importance is to connect all the great commercial points on the Atlantic with the Western States, and, finally, to perfect the intercourse between the West and New Orleans. There are others, no doubt, of great importance which will receive the aid of the Government. The fund proposed to be set apart in this bill is about \$650,000 a year, which is doubtless too small to effect such great objects of itself, but it will be a good beginning. Every portion of the community—the farmer, the mechanic, and the merchant—will feel its good effects, and, what is of greatest importance, the strength of the community will be greatly augmented and its political prosperity rendered more secure.

Henry Clay also spoke in favor of the proposed act, particularly in reference to its constitutional merits, but the House amended and passed it in such a manner as to enable the States to prosecute the work under the supervision of the National Goverment, and in this form it passed the Senate. On March 13, 1817, President Monroe vetoed this bill on the ground that he believed it to be unconstitutional, even though its provisions were agreed to by the States. An attempt was made to pass it over the President's head, but failed of the necessary two-thirds majority.

CONGRESSIONAL ACTION REGARDING ROAD BUILDING.

Upon the defeat of the bill for a National system of roads and for the funds for the same, Congress returned to its former method of providing for road building from funds derived from sale of public lands. In 1811, 5 per cent of the net proceeds of the sales of public lands in Louisiana were, as in the case of Ohio, given to that State for the building of roads and levees; in 1816 the same percentage of a similar fund was given to Indiana for roads and canals, and in 1817 a like sum was given to Mississippi for this purpose. In 1818, 2 per cent of a similar fund was given to Illinois for roads leading to that State; in 1819, 5 per cent to Alabama; in 1820, 5 per cent to Missouri, and in 1845, 5 per cent to Iowa. In the meantime the annual appropriations for the Cumberland road, of sums to be replaced from the funds thus set aside in the States through which it passed, were continued. For the fiscal year 1819 over half a million was donated, and on May 25, 1838, the last appropriation, amounting to \$150,000, was made, the sum total being about \$7,000,000.

While the Cumberland road was being built 12 other great National highways were laid out in the States and Territories, making what was then regarded a complete system of roads, and more or less work was done in opening and constructing them. Congress provided in 1806 for a road from the frontier of Georgia, leading toward New Orleans,

La., and one from Nashville, Tenn., to Natchez, Miss. From 1806 to 1838 a total of \$1,600,000 was appropriated by Congress for roads in various places, and of this sum \$200,000 was used in Florida; \$286,000 was expended for a road from Chicago, Ill., to Detroit, Mich., and other points; \$206,000 was also used toward the construction of a road from Memphis, Tenn., to the St. Francis River, in Arkansas. In addition to the appropriations above mentioned, grants of land have been made from time to time by the States to aid in the work, and the labor of United States troops has been occasionally employed.

In 1822 the regular appropriation for the Cumberland road was vetoed by President Monroe, and in 1830 the Maysville and Lexington turnpike bill, authorizing a Government subscription to the stock of a turnpike company in Kentucky, was passed by Congress, but was vetoed by President Jackson.

The monetary crisis of 1837 put a damper on all projects requiring large Government expenditures, and from that time to 1854 only a few small appropriations were made. Another period of activity then began and lasted until the civil war, during which time over \$1,600,000 was laid out chiefly on roads in the Territories. From that time to this only a few military roads have been made, and of late years nothing has been done in the way of National aid, save the building of roads in the District of Columbia, in National cemeteries, and on reservations.

VIEWS OF OFFICIALS AND OTHER PROMINENT MEN.

PRESIDENT ROOSEVELT.

Among the important topics presented to Congress by President Roosevelt in his last annual message were the extension of the rural free mail delivery and the construction of good roads. On these subjects he said:

The rural free-delivery service has been steadily extended. More routes have been installed since the 1st of July last than in any like period in the Department's history. While a due regard to economy must be kept in mind in the establishment of new routes, yet the extension of the rural free delivery system must be continued, for reasons of sound public policy.

No Governmental movement of recent years has resulted in greater immediate benefit to the people of the country districts. Rural free delivery, taken in connection with the telephone, the bicycle, and the trolley, accomplishes much toward lessening the isolation of farm life and making it brighter and more attractive. In the immediate past the lack of just such facilities as these has driven many of the more active and restless young men and women from the farms to the cities, for they rebelled at loneliness and lack of mental companionship. It is unhealthy and undesirable for the cities to grow at the expense of the country, and rural free delivery is not only a good thing in itself, but is good because it is one of the causes which check this unwholesome tendency toward the urban concentration of our population at the expense of the country districts.

It is for the same reason that we sympathize with and approve of the policy of building good roads. The movement for good roads is one fraught with the greatest benefit to the country districts.

COL. WILLIAM J. BRYAN, OF NEBRASKA.

One of the notable features of the recent good roads convention at St. Louis was the bringing together of President Roosevelt and

Colonel Bryan as speakers from the same platform. Widely as the two may differ on other questions, both are enthusiastic advocates of better highways. Colonel Bryan has been studying the good roads question recently and has taken a favorable view of the National aid plan. In his speech he gave utterance to the following sentiments:

I have become exceedingly interested in this subject as I have studied it. In fact, I have been thinking how many questions there are that enlist the thought and arouse the interest of those who seek to do something for their fellow-men. Nothing I have turned my attention to in the last few years has seemed to me to come nearer to the people than the question of good roads. I find that there is a new field there, and I have already advanced so far that I have made up my mind to build a little road out near my farm, and to do what I can to get my county and State to do something in the matter of roads.

The expenditure of money for the permanent improvement of the common roads can be defended, first, as a matter of justice to the people who live in the country; second, as a matter of advantage to the people who do not live in the country; and third, on the ground that the welfare of the Nation demands that the comforts of country life shall, as far as possible, keep pace with the comforts of city life.

It is a well-known fact, or a fact easily ascertained, that the people in the country, while paying their full share of the county, State, and Federal taxes, receive, as a rule, only the general benefits of government; while the people in the cities have, in addition to the protection of the Government, the advantages arising from the expenditure of public moneys in their midst. The farmer not only pays his share of the taxes, but more than his share; yet very little of what he pays gets back to him. People in the city pay not only less than their share, as a rule, but get practically all of the benefits that come from the expenditure of the people's money. Let me show you what I mean when I say the farmer pays more than his share: The farmer has visible property, and in every form of direct taxation visible property always pays more than its share. Why? Because the man with visible property always pays. If he has an acre of land, the assessor can find it; if he has horses, they can be counted; if he has pigs, they begin to squeal when the assessor approaches; he can not hide them. The farmer has nothing that escapes taxation.

The improvement of the country roads can be justified also on the ground that the farmer, the first and most important producer of wealth, ought to be in position to hold his crop and market it at the most favorable opportunity, whereas at present he is virtually under compulsion to sell it as soon as it is matured, because the roads may become impassable at any time during the fall, winter, or spring.

The farmer has a right to insist upon roads that will enable him to go to town, church, schoolhouse, and to the homes of his neighbors, as occasion may require, and with the extension of the rural delivery he has an additional need for good roads, in order that he may be kept in communication with the outside world.

Just to what extent action should be taken by the Federal Government, the State government, the county, and precinct, or in what proportion the burden should be borne, is a question for discussion; but that country roads should be constructed with a view to permanent and continuous use is scarcely open to debate.

I have such confidence in the patriotism and intelligence of the American people that I believe that in the clash of ideas and conflict of views the best will always be triumphant, the people having the benefit of the combined wisdom of all the people.

COL. J. H. BRIGHAM, ASSISTANT SECRETARY OF AGRICULTURE.

In his speech before the National Good Roads Convention at St. Louis in April, 1903, Col. J. H. Brigham, Assistant Secretary of Agriculture, said:

I see no reason why the General Government should not appropriate a certain sum of money to be expended in this great work. Of course the States, counties, and local communities should be expected to cooperate. A little aid from the General Government would be a wonderful encouragement to all the people.

I hear a number of speakers here saying that we must stir up Congress. Now, I want to impress you with the idea that we must first educate the people. When the people are in favor of National aid in building good roads Congressmen will be in favor of it, and not until then. They are not going ahead of the people.

When one of these great popular movements gets started it acquires wonderful momentum. I heard a story of two farmers who stood beside a railroad for the

first time. On the track stood an engine with a long train of heavy cars. Said one farmer to the other, "Jim, she'll never be able to start it. It isn't possible." Finally the steam was turned on and, with much puffing, creaking, and groaning, the great train began to move very slowly, then faster and faster, until finally with a whirl of dust and a roar like thunder, it swung out of sight around a distant curve. Then the farmer, drawing a long breath, remarked, "Jim, by the eternal, they'll never be able to stop it." So will it be with the good roads movement; once let it get thoroughly started and nothing will be able to stop it or stand before it till its great work is done.

I see no reason why the General Government should not reach out its strong arm and help the people of this country get better means of communication. I want to see this movement pushed with all the energy that is characteristic of the American people. When we undertake to do anything in this country we do it, and do it well. We have started out for better roads, and we are going forward on this line till we have as good roads as can be found anywhere in the world.

PRESIDENT WILLIAM H. MOORE, OF THE NATIONAL GOOD ROADS ASSOCIATION.

Unless the people in the different States take hold of the road improvement question vigorously, and raise local funds with which to start the work, they can not expect the Federal Government to come and dump a lot of money into their coffers. But if the people show a disposition to help themselves and to secure proper State legislation, I believe the Federal Government will come to their aid.

HON. MARTIN DODGE, DIRECTOR OFFICE OF PUBLIC ROAD INQUIRIES.

The Government can hardly be said to have an established policy in regard to roads. In early times the Government did build roads and paid all the cost. Afterwards this policy was abandoned and this work was turned over by the National Government to the States, and by the States to the counties, and all went into hands of petty officers. That policy has continued up to the present time. Now we are taking up the matter again. I do not find that anyone who has studied the question advocates the revival of the old policy, but I find that many think there should be cooperation between the United States and the individual States, or, failing this, between the Government and the counties, parishes, districts, or civil subdivisions.

There is no real reason that I know of, either in constitutional limitations or wise policy, why the Government should not extend beneficial aid in the improvement of the highways, or why it should not have done so forty years ago. I believe we are pursuing in this respect exactly the policy pursued for forty or fifty years in regard to the delivery of the mail. The people asked for no delivery of the mail in the rural districts and they got none. The people have asked no cooperation or aid in improving the highways for the last sixty years and they have received none. But I feel confident, should the people request their representatives in Congress to make the same effort to secure National aid to road improvement as was made to secure the rural delivery of mails, they will speedily find a satisfactory way to do it.

HON. NORMAN J. COLMAN, EX-SECRETARY OF AGRICULTURE.

Hon. Norman J. Colman, who was the first man to occupy the position of Secretary of the United States Department of Agriculture, and who is now editor of the *Rural World*, discusses the National aid proposition as follows:

The feeling is growing that some sort of systematized effort is necessary, involving a broader scope than has heretofore been generally accorded. That the effective solution of the good roads problem is too great a task for merely local effort is shown by the futile results. The business of constructing highways is a job the average farmer should not be expected to tackle. He has his hands full managing his business already; that requires all of his thought and most of his time. It has been suggested that cooperation of National, State, and local interests is logical, practicable, and essential. The logic of State cooperation is shown by the fact that the benefits accruing from the establishment of public highways extend far beyond their locality. Whatever the unit of organization, whether State, county, township or road district, there is no doubt that concerted action is necessary and that all who share in the benefits should divide the costs.

The invoking of National aid in building roads is so expansive a topic that it would fill all the pages of the *Rural World* and then run over. We have but to say at this time that the most rational thing we have seen in this connection is the bill introduced in the present Congress by Hon. Walter P. Brownlow, of Tennessee. The fundamental principles of the bill are sound and equitable. It provides for the establishment of a bureau of public roads in the Department of Agriculture. This we have long advocated as being the first step in the preliminary educational work which must precede the actual business of organization and construction.

The Brownlow bill provides that the director of this bureau may cooperate with any State or county, and that one-half of the expense of road construction shall be paid by the United States Government only when the work actually progresses through local effort and only when the districts have raised the other half required.

The constitutional provision is ample justification, and the rural free delivery system demands National aid. The tremendous growth of rural routes and the unanimity of opinion on their value in bringing about the revolution in country life encourage the belief that the Government will give this matter the serious consideration that it deserves.

GEN. NELSON A. MILES.

Speaking on the subject of good roads and National greatness, General Miles recently said:

I know of no one element of civilization in our country that has been more neglected than the improvement of our roads, yet this is the element that marks the line between barbarism and civilization in any country.

The founders of our Government strongly advocated the necessity of opening up and improving the means of internal communication. The immortal Washington retired from the pomp and circumstance of glorious war to occupy the honorable position of a sovereign citizen, and while conducting the affairs of his plantation was president of a transportation company. The author of the Declaration of Independence, the founder of one of our great universities and the eminent statesman who gave to us this vast empire west of the Mississippi, was right when he said in a letter addressed to Humboldt:

"It is more remunerative, splendid, and noble for the people to spend money on canals and roads that will build and promote social intercourse and commercial facilities than to expend it on armies and navies." He was right again when he said, in a letter to James Ross, "I experience great satisfaction in seeing my country proceed to facilitate intercommunication of several parts by opening rivers, canals, and roads. How much more rational is this disposition of public money than that of waging war?"

During the past hundred years the people of this country have devoted more capital, industry, and enterprise to the construction of great commercial railways than have the people of any other country.

Our Government has expended more than \$440,000,000 for the improvement of our harbors and waterways. If such expenditures of the National treasure have been made in the past for the development of railroads and waterways, is it not now most appropriate that the improvement of our roads should receive National attention and Government aid?

Any measure that brings to the homes of the American people the daily news of the world, that gives the sovereign citizen the truth concerning the affairs of his own country, that affords him the knowledge of the conditions and necessities of his own people, enables him to discharge the duties of his citizenship, benefits the entire country, and gives strength and character to the Nation.

The wealth of the Nation comes primarily from the ground. The factory and the foundry utilize the products of the soil and mine. As agriculture is our principal industry, so the great mass of our rural people are our main dependence. Their patriotism, their public spirit, their welfare must ever be the salvation and glory of our Republic. Therefore, every measure, whether by the National Government, the State, county, or municipal authorities, that can promote their welfare should be earnestly advocated.

SECRETARY CHARLES Y. KNIGHT, OF THE NATIONAL DAIRY UNION.

In company with hundreds of thousands of other people throughout the United States, I am very much interested in National aid. I have just returned from a tour of Italy, France, and England, where I had an opportunity to observe the character

of the roads in those countries. Coming home and looking over the miserable facilities for getting around in the rural districts, I made up my mind that it will be necessary for this country to do as European countries have done in order to get good roads, i. e., have Government aid.

The National Dairy Union is organized throughout the North in every Congressional district which has any amount of agricultural constituency, and I am firmly of the opinion that the progressive farmers who are dairymen will be in favor of the bill for National aid. I am so much interested in its success that I am willing to use my influence to have our dairy farmers petition for the passage of this bill. I would be willing to give several hundred dollars out of my own pocket to see the roads of this country improved like those of France.

JUDGE E. H. THAYER, OF IOWA.

In his speech before the first National good roads convention ever held in this country (Chicago, Ill., 1892), Judge Thayer presented a proposition that is practically identical with that contained in the Brownlow bill. He said:

The Constitution provides that "Congress shall have the power to establish post-offices and post-roads." It has appropriated millions of dollars from the Public Treasury for establishing post-offices, but in the last half century it has appropriated comparatively nothing for establishing post-roads. There is not an inhabitant of Iowa but is entitled to have his mail brought to his home, no matter whether he lives in the country or in the city. It is gratifying to know that the free delivery system is being extended to the small towns, although the Postmaster-General writes that "enlarging free delivery over anything like universal free delivery will have to be postponed until there are better facilities of communication through the rural and sparsely settled districts." Just so. But must the State and county and the township be required to make those "better facilities" by the expenditure of vast sums of money and then invite the Government to put mail carriers on them? That can not be the meaning of the Constitution. To establish post-roads must mean something more than merely using the roads for postal service after somebody else has built them.

Up to the 1st day of July, 1892, there has been paid into the Federal Treasury from the sale of Iowa lands the sum of \$13,031,900. More than half of this amount was for lands sold in 1854-55. There has been donated to railroads 4,910,937 acres of land. Now, then, in the present state of the public mind on the necessity of building good roads, with popular opinion favoring Government aid, would it not be a reasonable, proper, and legitimate thing for Congress to return to Iowa at least an amount equal to the one-half of the proceeds derived from the sale of Iowa lands, to be used in establishing post-roads in this State? This would give as Government aid, in round figures, \$6,500,000.

The older States contributed no lands to the common National fund; but Iowa lands were sold to make up a portion of Government expenses which all the States alike ought to have contributed to. When the West, with pardonable enthusiasm, ran wild after railroads, and Congress donated almost 5,000,000 acres of the best land the sun ever shone upon to help build those roads in this State, had there been the same interest taken by our people in "good roads" that there is now, and had the State then asked for a similar amount of lands for road purposes, no doubt Congress would have complied with the request. For precisely the same object, but more directly in the interest of the State, let Iowa appeal to Congress for an appropriation equivalent to the donation made to the railroads.

VIEWS OF STATESMEN PROMINENT IN THE EARLY HISTORY OF THE REPUBLIC.

THOMAS JEFFERSON.

In 1786, Jefferson, in a letter to James Ross, said:

I experience great satisfaction at seeing my country proceed to facilitate the inter-communications of its several parts by opening rivers, canals, and roads. How much more rational is this disposal of public money than that of waging war.

Somewhat later he seems to have doubted the constitutionality as well as the wisdom of the General Government making internal improvements. But during his second Administration he signed the bill providing for the construction of the Cumberland road.

Henry Clay summarized Jefferson's views on this question as follows:

It was the opinion of Mr. Jefferson that, although there was no general power vested by the Constitution in Congress to construct roads and canals without the consent of the States, yet such a power might be exercised with their assent. Mr. Jefferson not only held this opinion in the abstract, but he practically executed it in the instance of the Cumberland road; and how? First, by a compact made with the State of Ohio for the application of a specified fund, and then by compacts with Virginia, Pennsylvania, and Maryland to apply the fund so set apart within their respective limits.

In 1808, while still President, Jefferson wrote as follows to Mr. Lieper:

Give us peace till our revenues are liberated from debt, and then, if war be necessary, it can be carried on without a new tax or loan, and during peace we may chequer our whole country with canals, roads, etc. This is the object to which all our endeavors should be directed.

In 1813, in a letter to J. W. Eppes, Jefferson made this most significant declaration:

The fondest wish of my heart ever was that the surplus portion of these taxes, destined for the payment of that (Revolutionary) debt, should, when that object was accomplished, be continued by annual or biennial reenactments, and applied in time of peace to the improvement of our country by canals, roads, and useful institutions (literary or others), and in time of war to the maintenance of the war.

JAMES MADISON.

In one of his later messages to Congress President Madison said:

I particularly invite again the attention of Congress to the expediency of exercising their existing powers, and, where necessary, of resorting to the prescribed mode of enlarging them, in order to effectuate a comprehensive system of roads and canals, such as will have the effect of drawing more closely together every part of our country, by promoting intercourse and improvements, and by increasing the share of every part in the common stock of National prosperity.

HENRY CLAY.

Clay was always an advocate of internal improvements and was in his generation the ablest and most persistent advocate of the building of National roads. His well-matured opinion on the question of internal improvements was most tersely expressed in a speech made in Congress in 1818, in which he said:

Of all the modes in which a government can employ its surplus revenue, none is more permanently beneficial than that of internal improvement. Fixed to the soil, it becomes a durable part of the land itself, diffusing comfort and activity and animation on all sides. The first direct effect is on the agricultural community, into whose pockets comes the difference in the expense of transportation between good and bad ways. Thus if the price of transporting a barrel of flour by the erection of the Cumberland turnpike should be lessened \$2, the producer of the article would receive that \$2 more now than formerly.

DANIEL WEBSTER.

Speaking in the United States Senate, in 1830, Mr. Webster referred to the Government's right and duty to undertake works of internal improvement in the following language:

Two considerations at once presented themselves, in looking at this state of things, with great force. One was that that great branch of improvement which consisted

in furnishing new facilities of intercourse necessarily ran into different States in every leading instance and would benefit the citizens of all such States. No one State, therefore, in such cases would assume the whole expense, nor was the cooperation of several States to be expected. Take the instance of the Delaware breakwater. It will cost several millions of money. Would Pennsylvania ever have constructed it? Certainly never while this Union lasts, because it is not for her sole benefit. Would Pennsylvania, New Jersey, and Delaware have united to accomplish it at their joint expense? Certainly not, for the same reason. It could not be done, therefore, but by the General Government. The same may be said of the large inland undertakings, except that in them Government instead of bearing the whole expense cooperates with others who bear a part. The other consideration is that the United States have the means. They enjoy the revenues derived from commerce, and the States have no abundant and easy sources of public income. The custom-houses fill the general treasury, while the States have scanty resources except by resort to heavy direct taxes.

Under this view of things I thought it necessary to settle, at least for myself, some definite notions with respect to the powers of the Government in regard to internal affairs, and I arrived at the conclusion that Government had power to accomplish sundry objects or aid in their accomplishment, which are now commonly spoken of as internal improvements.

JOHN C. CALHOUN.

While Secretary of War, in 1819, Mr. Calhoun, in a report to the House on roads and canals, said:

No object of the kind is more important, and there is none to which State or individual capacity is more inadequate. It must be perfected by the General Government or not be perfected at all, at least for many years. No one or two States have a sufficient interest. It is immediately beneficial to more than half of the States of the Union, and, without the aid of the General Government, would require their cooperation. It is at all times a most important object to the Nation, and, in a war with a naval power, is almost indispensable to our military, commercial, and financial operations. It may, in a single view, be considered the great artery of the country, and when the coasting trade is suspended by war the vast intercourse between the North and South, which annually requires 500,000 tons of shipping, and which is necessary to the commerce, the agriculture, and manufactures of more than half of the Union, seeks this channel of communication.

* * * * *

Many of the roads and canals which have been suggested are no doubt of the first importance to the commerce, the manufactures, the agriculture, and political prosperity of the country, but are not for that reason less useful or necessary for military purposes. It is, in fact, one of the great advantages of our country, enjoying so many others, that, whether we regard its internal improvements in relation to military, civil, or political purposes, very nearly the same system, in all its parts, is required. The road or canal can scarcely be designated which is highly useful for military operations that is not equally required for the industry or political prosperity of the community. If those roads or canals had been pointed out which are necessary for military purposes only, the list would have been small indeed. I have, therefore, presented all, without regard to the fact that they might be employed for other uses, which in the event of war would be necessary to give economy, certainty, and success to our military operations, and which, if they had been completed before the late war [of 1812], would, by their savings in that single contest in men, money, and reputation, have more than indemnified the country for the expense of their construction.

STATE ROAD LEGISLATION IN THE UNITED STATES.

A digest of all the road laws of all the States would occupy the space of a large volume, would require a vast amount of labor to prepare, and in the end would be found of little or no value as a guide to progressive lawmakers. Therefore no such digest is here attempted.

The only important new feature in State road legislation is the

adoption of what is known as the State-aid plan, which carries with it the election or appointment of a State officer, or board, charged with the administration of the law. It is only in the States that have adopted this plan that any notable progress in road improvement has been made in recent years. All of the Northeastern States, from Pennsylvania to Maine, inclusive, have adopted this plan in some form. Also, California has incorporated some features of the plan in her road laws. While the laws of other States differ in a multitude of details, they are alike in this respect: The building and maintenance of the roads are placed under the control of local officials, and the funds used are raised by local taxation, or by sales of bonds to be ultimately paid by such taxation.

In most of the States all able-bodied male citizens between certain ages are required to do a certain number of days' work on the roads or to pay an equivalent in money. In some cases the basis of taxation is the county, in others the town or township, in still others the road districts, and finally special taxes are sometimes levied on the property contiguous to the road improved. In some cases there is cooperation between the county and its subdivisions, each bearing a share of the burden.

In the Northern States as a rule the State legislatures have enacted laws which are uniform in application to all the civil subdivisions. In the Southern States, on the other hand, as a rule the State legislatures enact special laws applying to particular counties, and there is consequently great lack of uniformity.

In a number of States convict labor is employed on the roads, this being more common in the South than in the North.

The reasons why laws such as just described have failed in a large measure to secure the results aimed at may be summarized as follows:

1. General inefficiency of the statute labor system and incompetence of local road overseers.
2. Insufficient revenue and unwillingness on the part of taxpayers to bear the heavy burden of taxation necessary.
3. Popular aversion to the issuance of bonds.
4. Popular discouragement, because after many years of labor and taxation no general improvement has resulted.
5. Lack of any superior or central authority capable of coordinating the efforts of local communities, stimulating to action, overcoming local prejudices, and securing the best results in spite of local objectors who would sacrifice the welfare of the community to their own selfish interest.

The State aid plan, on the other hand, distributes the burden of expense, stimulates to action on the part of local communities, coordinates local effort, assures competent supervision of road work, and secures results of permanence and value.

As National aid is only a larger application of the principle of State aid it is not surprising to find in those States which have tried the latter so strong a sentiment in favor of the former. The ideal system is one in which the Nation, the State, the county, and the township cooperate, each bearing a share of the burden.

In the following paragraphs attention is called only to recent and progressive features in the legislation of the several States, no attempt being made to outline any of the laws in force except briefly those providing for State aid. The information given is derived from the

report of Director Dodge, of the Office of Public Road Inquiries, United States Department of Agriculture, and other reliable sources.

Previous to 1893 only one State, namely, New Jersey, was aiding the counties in the improvement of the public highways, but since that time the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Delaware, and California have established highway commissions and are aiding the counties, towns, and townships by money donations out of the State treasury. In New Jersey the State contributes one-third of the cost, in New York one-half, in Massachusetts three-fourths, in Connecticut two-thirds and in some cases three-fourths of the cost, while the counties, towns, townships, and property owners contribute the balance. Other States, namely, Maryland, North Carolina, Michigan, and Illinois, have established highway commissions for the purpose of collecting and disseminating information, but as yet these States have made no appropriations to aid in the actual construction of the roads.

California.—A department of highways was established on April 1, 1897. This department has jurisdiction over all State roads and all moneys appropriated for the improvement of the same. It also examines into road conditions throughout the State, studies materials, furnishes information to the county officials, and reports to the governor each year.

Connecticut.—Connecticut appropriates \$225,000 per annum as State aid. The State pays two-thirds and in some cases three-fourths the cost of the road. The towns pay the balance of the cost. State aid commenced in 1895, and the State has appropriated the sum of \$1,538,910 for this purpose. The towns and counties during this period have appropriated for their share \$1,003,708. There has been built and is now under contract by State aid about 454 miles of road, which will cost over \$2,000,000.

Delaware.—The last legislature of Delaware passed a State aid bill, which provides for the appointment of three highway commissioners to have charge of the State road work, one in each county. It further provides that the expense of construction of State roads shall be borne equally by the State and the county interested, and \$30,000 per year for the next two years was appropriated as the State's share of the expense for road improvement.

Florida.—A recent act of the legislature sets aside for the improvement of the roads the Indian war claims, the payment of which has been authorized by Congress. From this the State will realize over a half million dollars. Another act recently adopted provides that all moneys now in the internal improvement fund, or which may be derived from State swamp or overflowed lands, shall be devoted to the construction of hard roads, being divided among the several counties in proportion to their assessed valuation.

Idaho.—Some help is received from the State in regions where the expense of road or bridge building is too great to be borne by the locality.

Illinois.—The legislature of Illinois recently enacted a law providing for the appointment of a good roads commission consisting of three persons. They are to investigate road problems in the State and are directed to report a bill to the next legislature embodying the principles of National, State, and county cooperation in the improvement of

the highways. A bill was also passed providing for the use of convicts in the preparation of road material in quarries located on the grounds of penal institutions, the material to be donated to the counties free of cost.

Maine.—This State has a law providing for a comparatively small measure of State aid. Amendments to the State aid law of 1901 were adopted by the last legislature, providing that the amounts payable to the town for permanent improvements to the main roads are to be increased from \$100 to \$200 per year, and for annual appropriation by the State for this purpose of \$20,000 instead of \$15,000 as heretofore.

Maryland.—The Maryland highway division of the State geological survey was established by the general assembly in 1898 for the purpose of investigating the conditions of the roads in the State and the best methods of improving the same. Since 1898 \$10,000 has been appropriated each year for carrying on the work of this division. A most careful and searching inquiry into the road question of the State has been made and several exhaustive reports issued. A State highway commission and a State-aid law are strongly recommended, and it is probable that such law will be adopted by the present legislature. The highway division reports, among other things, that there are 16,000 miles of roads in the State, of which 497 miles are toll roads. There are about 900 miles of stone, shell, and gravel roads maintained by the counties. It is estimated that the counties spend for road maintenance \$600,000 annually, and that the people of the State pay about \$140,000 annually in tolls. It is estimated that the average hauling distance is 6.7 miles, and that the average amount hauled in tons per horse is 0.58 tons for the year. The average cost of hauling 1 ton, per mile, in Maryland is 26 cents. The cost of properly built macadam roads in Maryland, graded for a width of 20 feet with macadam 12 feet wide, varies from \$4,000 to \$6,000 per mile.

Massachusetts.—Massachusetts appropriates annually \$490,000 as State aid. The State pays the entire cost of the road, but 25 per cent of the cost is assessed back to the counties. The State has appropriated for the building of roads an aggregate of \$4,940,000. The Massachusetts highway commission, which was established in 1894, has received some contributions from counties, towns, and individuals to assist in building roads, which amount to \$210,923, making a sum total of \$5,150,923. The State has built and now has under contract 480 miles of highway, and has petitions covering 1,120 miles more, and is awaiting appropriations to build the same. The recent legislature appropriated \$2,250,000 to be expended for State highways during the next five years.

Michigan.—The last legislature passed an act for the appointment of a State highway commissioner, to whom all local road officials throughout the State are to make annual report. The State commissioner is to study road conditions and furnish information to the counties. The constitutionality of the act has been questioned.

Minnesota.—The legislature at its last session adopted a resolution in favor of National aid as provided for in the Brownlow bill, a copy of which will be found on page — of this report.

Mississippi.—Governor Longino, of this State, in his address before the International Good Roads Congress, held at Buffalo September 16–21, 1901, after referring to the work of the good roads train, which

was operated over the Illinois Central Railroad through the cooperation of the National Good Roads Association and the Office of Public Road Inquiries, United States Department of Agriculture, said:

More interest has been aroused by their efforts concerning this important subject, among the people there, than perhaps ever existed before in the history of the State. By their work, demonstrating what could be done by the methods which they employed, and by their agitation of the question, the people have become aroused as they never were before; and since their departure from the State a large number of counties which were not already working under the contract system have provided for public highways, working by contract, requiring the contractor to give good and sufficient bond, a bond broad enough in its provisions and large enough in amount to compel faithful service; and Mississippi is to-day starting out on a higher plane than ever before.

Missouri.—The legislature of Missouri has indorsed the plan of National, State, and local cooperation in the permanent improvement of the public highways.

Nebraska.—The legislature recently passed a bill providing for cooperation with the Federal Government whenever the plan of National aid shall be adopted by Congress.

New Hampshire.—The legislature of New Hampshire recently passed a bill providing for the appointment of a State engineer, who shall prepare a highway map of the State and plan a system of continuous main highways which shall include every town in the State; \$10,000 was appropriated for this purpose. It was also provided in the bill that the governor and the council shall prepare a bill for the next general assembly which will provide fully for the inauguration of a system of State work and State expenditure in the future construction and repair of highways.

New Jersey.—This was the first State to take any radical step toward the improvement of her public highways. Her State aid law was passed in 1891. The State pays one-third of the cost, the counties two-thirds, and 10 per cent of the county's share may be assessed on the town; \$250,000 is now annually appropriated by the legislature for paying the share of the State. The State has already appropriated during the past ten years \$1,515,168. The counties have spent more than double this sum, as they pay for bridges, surveying, and incidentals. There has been built and is now under contract by State aid 1,000 miles of road, and there are applications on file for the improvement of 600 miles of road for which the State as yet has made no appropriation. All State aided roads are built under the direction and according to the specifications of the State commissioner of public roads. The farmers who at first strongly opposed the State aid law are now equally enthusiastic for it, and more roads are being petitioned for than can possibly be built in many years out of the limited State appropriation. The system seems popular with all classes.

New York.—This State last year appropriated \$600,000 as State aid. The State pays 50 per cent of the cost of the road, the counties 35 per cent, and the towns (townships) 15 per cent. The State has appropriated all told \$2,065,000 for State aid; the counties have spent a like sum. Two hundred and forty-two miles of road have been built and 242 miles are now in process of construction. The State engineer and surveyor has petitions for 4,000 miles for which the counties and towns have either appropriated their half of the cost or are ready to appropriate the same and are waiting for the State to appropriate its share, which will amount to \$16,000,000. If the State does not appropriate

more than \$600,000 a year as aid for roads it will take about twenty-seven years to complete the roads now petitioned for. Those interested in roads are not willing to wait this long. Therefore at the last session of the legislature an act was passed proposing a constitutional amendment which provides that the State may bond itself for \$5,000,000 a year for ten years, that is, for \$50,000,000, for the building of wagon roads. This amendment must be again passed by the legislature of 1905 and afterwards submitted to the vote of the people. If it is adopted it is believed that in the year 1906 this State will issue bonds for building roads.

On January 28, 1904, the senate at Albany adopted a resolution in favor of National aid as provided for in the Brownlow bill. This resolution had passed the house two days before.

North Carolina.—In 1901 a highway commission was established, composed of the State commissioner of agriculture, the State geologist, and the State secretary of agriculture. The duty of this commission is to collect and disseminate information on road subjects and report to the legislature.

Ohio.—Under a call issued by the legislature a State good roads convention was held in the State capitol at Columbus, on February 15, 1904. This convention adopted resolutions in favor of the State aid law now pending before the legislature. It also declared in favor of the national aid plan.

Oregon.—A fund for the improvement of roads and bridges has been created out of a portion of the receipts from the sale of the public lands of the State and from the tax collected by the National Government in 1861, which has since been repaid to the State.

Pennsylvania.—In 1903 this State created a State highway commission and appropriated \$6,500,000 to be apportioned among the different counties as State aid in proportion to the mileage of roads in each county, and to be expended during a period of six years. Two-thirds of the cost of building roads is to be paid by the State, one-sixth by the county, and one-sixth by the township which the improved highway traverses.

Rhode Island.—The last legislature passed a resolution appropriating \$100,000 for the construction and maintenance of highways under the direction of the State board of public roads, which was created by the preceding legislature. Out of 2,240 miles of highway in Rhode Island about 500 miles have been improved by the use of gravel and stone.

Tennessee.—The legislature at its last session indorsed National, State, and local cooperation in the improvement of the highways as provided for in the Brownlow bill.

Vermont.—The State-aid law of Vermont became effective in 1898. It provides for the appointment of a State highway commissioner, who has supervision, through the town commissioner, of the expenditure of all the moneys appropriated by the State for highway improvement. The law also provides a State tax for highway improvement, which is redistributed to the towns on the basis of mileage. The towns are required to use their apportionment of State aid in permanent road work and to expend a sum equal to their apportionment to the satisfaction of the State highway commissioner before they receive any State aid. The 5 per cent State tax provided for by law raised during

the year 1901 the sum of \$88,621 and during the year 1902 \$89,057. This money was apportioned to the counties by the highway commissioner in proportion to mileage.

ROADS AND ROAD LAWS OF SOME FOREIGN COUNTRIES.

The following information concerning roads and road laws in foreign countries has been compiled mainly from reports made to the State Department by the United States consuls. Some statements have been quoted from a "History of Macadam Roads," by Isaac B. Potter, and from other reliable authorities. Notwithstanding the fact that most of these reports were made several years ago, it is believed that they show the laws substantially as they exist to-day, few, if any, important changes having been made in recent years.

It will be noted that in nearly every country where an advanced state of civilization has been reached the general government takes a hand in the building and maintenance of roads. In those countries which have made the greatest progress in road improvement the government has taken the largest part in the work.

In a number of foreign countries government aid is not furnished in the manner proposed in the National aid bills now before Congress. In those countries the roads are divided into classes, the largest and most important highways being classed as National roads, and these are constructed and maintained entirely by the government. In a number of other foreign countries, however, we find government aid furnished in a manner very similar to that now proposed in the United States.

AUSTRIA.

A sufficient general idea of the road laws of Austria can be gathered from the following facts, communicated to the State Department by Consul-General Goldschmidt, Vienna, 1891:

In speaking of the construction, maintenance, and management of public roads in Austria a distinction must be made between the so-called imperial or state roads, which are subject to the legislation and administration of the state, and the public streets and roads, which are subject to provincial legislation.

The total length of state or imperial roads throughout the kingdoms and provinces at present represented in Parliament amounted in the year 1828 to 7,090 miles, and in the year 1873 to 9,300 miles. Therefore the increase in length in this time amounts 24 per cent of the latter figure.

For the constructing of new state roads it is prescribed that the maximum breadth (even in the vicinity of large towns) should be 30 feet. Only the largest state roads, leading from the city of Vienna, have the exceptional breadth of $37\frac{1}{2}$ feet.

During the last century experiments have been made with the letting of the maintenance of the state roads to private parties, which experiments have, however, proved unsatisfactory. Then the Government took in hand the work of maintaining the state roads and has adhered to this system up to the present day, with a short interruption in the years 1858-1861, during which time the keeping of roads was again contracted for, by way of experiment, which again gave but unsatisfactory results.

For the immediate carrying out of the work necessary for keeping in repair the state roads road keepers are employed by the Government.

Of the costs of construction and maintenance of such parts of state roads as lead through towns, villages, etc., the State only pays the same amount as is required for the construction and maintenance of the continuation of the same roads outside of such towns, villages, etc.

All other public streets and roads which are not state roads are subject to the independent administration of the single respective provinces, and with regard to them the respective provincial laws are in force.

The different provincial laws classify the respective roads generally into provincial roads, district roads, and community roads.

All costs for the building and maintenance of provincial roads (in Styria of first-class district roads) are paid from the provincial fund.

All wagons built for loads of more than $2\frac{1}{2}$ tons must have tires of more than $4\frac{1}{2}$ inches, and if built to carry more than $4\frac{1}{2}$ tons the tires must be at least $6\frac{1}{4}$ inches wide.

BELGIUM.

The road laws of Belgium are quite similar to those of France. The following statement is based on a report by Consul Roosevelt in 1891:

The roads of Belgium are divided into three categories:

1. Government roads under the National Government.
2. Provincial roads controlled by the provincial governments.
3. Communal roads controlled by the communal authorities.

Almost all of the roads are paved with native porphyry and sandstone, and are made very like paved city streets, with curbstones, sidewalks, and paved gutters. The widths of the roadways (exclusive of sidewalks and gutters) are as follows: Government roads, $5\frac{1}{2}$ yards; provincial roads, $5\frac{1}{2}$ yards; communal roads, $4\frac{1}{2}$ yards.

Consul Tanner, at Liege, Belgium, in 1882 reported to the State Department on the condition of the roads in Belgium as follows:

Americans who find themselves in Europe are struck with astonishment at the enormous loads drawn by horses and dogs here. One glance of the eye from the bulk just mentioned to the roads and half the wonder would be accounted for, because the roads have almost everything to do with it.

Belgium is divided into nine provinces, and each province is the seat of a well-organized State government, presided over by a governor. Each of the nine provinces at each seat of government has a bureau for roads and bridges whose chief gives his undivided attention to these things.

The roads are most carefully engineered in the first place, heavy grades, even in mountainous localities, being carefully avoided. The roads are built in an oval form and in most cases are paved with stones. In others gravel forms the roadbed, and in still others gravel covers the stone, which soon becomes hard and smooth.

These roads are flanked on either side by two, and sometimes four rows of shade trees which add much beauty to the country through which they run, and from a distance are particularly picturesque where several roads intersect.

The public roads of Belgium enter into successful competition with the railroads, so much so that a man who has his team does not by any means consider himself forced to send his products by rail. It is one of the commonest of sights here in Liege to see wagons laden with merchandise from Brussels, which is 60, or from Antwerp, which is 72 miles from this place; this fact does not possess anything astonishing until the enormous load pulled that distance by one horse is considered.

Place the same load on almost any of our roads in the United States and at least two more, if not three more, "English drafts" would be required to pull it the same distance. Dog carts come to this market, laden with beef and other products of the farm, a distance of 12 and 15 miles, drawn by one dog. Two grown persons return in the wagon.

DENMARK.

Consul Ryder, of Copenhagen, reported as follows on the roads of Denmark in 1891:

The construction and maintenance of the public roads in Denmark are under the management and at the charge of the local municipal boards, subject, however, to State supervision, and these roads may be divided into four classes, according to the extent and nature of the traffic.

The highways and larger public roads are managed by the county council boards, but no works of extension or limitation can be proceeded with without the previous

sanction of the home secretary. These highways have also to be inspected every year by a state inspector, who shall notify to the boards any existing wants, and should necessity arise he may order such works to be made good at the expense of the defaulting board. Each county board has its own inspector, with assistant inspectors and roadmen, the cost of new works and repairs being borne by the county contributory fund, raised upon the taxed valuation of the land in the districts concerned.

The byroads are managed by the parish boards of guardians and town councils, each in its own sphere. All extensions or limitations of the byroads are made at the recommendation of the parish boards and with the sanction of the high sheriff and county council.

ENGLAND.

England has no National scheme of building and maintaining highways comparable with that of France. The laws and methods are varied and local in their application, the funds being raised by local taxation.

The following description is taken from a history of macadam roads by Isaac B. Potter, published in 1894:

The macadam roads of England are generally good, but they are rarely excellent, and sometimes they are almost bad. They are infinitely better than the dirt roads of the United States, and a traveler who rides upon the English highways will often meet great loads of farm products moving smoothly along and exciting the wonder of one who is familiar with the difficulties of country-road travel in our own country. But the roads of Great Britain are decidedly inferior to those of France, and the reason of this can doubtless be traced to the different systems adopted by the two governments.

In 1835 England adopted a law which abolished the old statute duty and substituted a money tax for highway purposes. The new law also permitted the appointment of a paid supervisor, either for a single parish or for a highway district. By the later laws of 1862 and 1864, highway districts were established throughout south Wales and in some parts of England. By the act of 1878 and later acts of Parliament, the duty of maintaining the highways is laid upon the taxpayers of each parish, under the direction of their highway supervisor; several parishes are united into districts for the purpose of highway management, and are under the supervision of the highway boards; municipal boroughs and towns are empowered to perform the duties of highway supervisors within their corporate boundaries, and the local government board of London is charged with a general supervision of the several systems for the benefit of the entire county. The highway tax is limited in each parish to 20 cents on the pound (\$4.86). Property is assessed according to its rental value and not according to actual value, as in this country.

And so it appears that the English system is somewhat disjointed and somewhat closely resembles the county system that has been adopted in several of our own States. The roads in each county and in each parish depend for their quality and for their good maintenance at low cost upon the skill of a local officer, and since these officers have the benefit of no system which keeps them in touch with each other or gives to one the benefit of knowledge and experience acquired by another, there is of necessity a considerable variety of method employed, to say nothing of the variety of results obtained and the wasteful expenditure of money due to the experiments of ignorant surveyors.

Referring to this lack of system and its consequent waste, Mr. Codrington says:

"It is certain that a large portion of this heavy expenditure might be used to much greater advantage with more skill and system on the part of the road supervisors and those who direct their proceedings; and the direct savings of the cost of construction and wear and tear of vehicles and horses which would result from better roads would probably far exceed any direct saving in expenditure on the roads, considerable as the latter might be."

In commenting on the same subject Mr. John E. Phillips, in an instructive little tract recently published by the Roads Improvement Association of London, of which he is an officer, says:

"One needs but to travel less than a hundred miles upon the highways of Great Britain to become convinced, by the overwhelming proof of uncomfortable experience, that too many systems of maintenance and repair are in vogue for all to be good ones; and but a slight knowledge of the local administrations which produce these

various systems by the employment of unskilled labor and unlearned supervisors and the use of unsuitable material."

And so we see by the testimony of her best roadmakers that the road system of Great Britain is open to adverse criticisms. It is maintained by liberal expenditure of public money, and while many miles of excellent highways may be found in Great Britain, it is clear that even these might be better and a more uniform quality of road work maintained throughout all the counties under a less disjointed system and one that provided for a general supervision by a responsible head.

FRANCE.

France leads the world both in completeness of her road system and in perfection of building and maintenance. The following outline is based partly on reports of United States consuls and partly on the essay on Road Legislation by Jeremiah W. Jenks, Ph. D., published in 1889 by the American Economic Association:

All over France the roads are divided, according to their importance, into the following categories:

1. *National roads.*—These are the great highways which lead from Paris to different points of the frontier, or which join the great provincial towns, such as Lyons and Bordeaux, or, again, which connect the different fortified towns along the frontier. At the beginning of the century these highroads were almost the only ones which were kept in good repair, and for many years they were the main arteries of traffic and travel all over France. They are still kept in good order all over the country. This class of roads is entirely maintained by the State, and is under the management of State engineers, whose chief is the minister of public works.

2. *Departmental roads.*—These connect the different towns of a department with each other and with the towns of the neighboring departments. They are not quite so broad as the "routes nationales," but are kept in admirable order, and bear more traffic than any other class of roads. They are maintained entirely out of the funds of the department, or, as would be said in England, out of the county rates.

3. *Township or local roads.*—These are lesser highways connecting villages and furnishing means for local travel and transportation. They are built and maintained by local taxation and labor (each taxpayer being required to furnish three days work or pay an equivalent in money). Special taxes are levied on large manufacturing industries which by the continual hauling of very heavy loads cause abnormal wear and tear of the roads.

Mr. Isaac B. Potter, in his History of Macadam Roads (1894), says:

The roads and the road system of France are doubtless the best in the world, a fact that is clearly due to the splendid system which is everywhere followed throughout the Republic. It insures an absolute uniformity of excellence in all sections of the country, and a traveler may search in vain over the 200,000 square miles of the French home territory for a material variation in quality of road surface or in the system of repair and maintenance which has been found by experience to be the best and cheapest. France has about 130,000 miles of macadam roads, and these roads are maintained in perpetually good condition at a yearly expense of about 48 cents for each inhabitant. The country is divided into 87 departments, somewhat like our counties. The roads in each department are divided into cantons, a canton being a certain length of road which may be only a few hundred yards in some cases, or a mile in others, according to the amount of work and material required to keep it in good condition. On heavily traveled roads the canton is short, and on less important ones it is, of course, longer. Each canton is placed in charge of a workman called a cantonnier, who is held strictly responsible for the condition of the canton under his charge.

The working force of six cantonniers having charge of adjacent cantons is called a brigade, and is in charge of a cantonnier-chef. Several brigades are placed under charge of a conductor or superintendent, who is generally made responsible for a section of 40 or 50 miles of road, which he is required to inspect and report upon twice in every month.

Each township or arrondissement has an engineer who has charge of all of the road sections within the township and who directs the conductors in their several duties.

To everyone interested in the subject of improved roads the road system of France is a delightful study. The people themselves are devoted believers in the value of

the good road work, which has added so much to the thrift of the country, increased the value of lands, and brought the farming communities so closely in touch with one another and with the markets.

Consul Loomis, at St. Etienne, reporting to the State Department in 1891, says of the roads of France:

The modern road system of France was inaugurated by the First Napoleon and carried forward to its satisfactory and splendid conclusion by the late Emperor, Napoleon the Third.

The roads of France are now practically all built, and they are substantial monuments to the Napoleonic foresight and shrewdness. The work of the engineers in the department of public works in France to-day is not to build new roads, except in rare instances, but to keep those already constructed in a state of high efficiency. There have been no important new roads opened in France for a dozen years, and the country is so traversed with excellent roadways that no more lines of communication are likely to be exploited save in the case of military necessity. The wagon roads of France, always passable and reaching all centers of population, no matter how small, are the chief competitors of the railways, as means of communication by water are not numerous.

The road system of France has been of far greater value to the country as a means of raising the value of lands and of putting the small peasant proprietors in easy communication with their markets than have the railways. It is the opinion of well-informed Frenchmen who have made a practical study of economic problems that the superb roads of France have been one of the most steady and potent contributions to the material development and marvelous financial elasticity of the country. The far-reaching and splendidly maintained road system has distinctly favored the success of the small landed proprietors, and in their prosperity, and the ensuing distribution of wealth, lies the key to the secret of the wonderful financial vitality and solid prosperity of the French Nation.

All freighting and market carts must have tires from 3 to 10 inches wide, usually from 4 to 6. (This applies to 2-wheel carts.) The 4-wheel wagons very seldom have tires less than 6 inches wide, and the rear axle is usually longer than the fore, so that the hind wheels run about an inch outside of the level rolled by the fore wheel.

GERMANY.

The following concerning the roads and the road laws of Germany is quoted from a summary given in the report of the California department of highways for 1900:

The excellent roads of Germany are mainly a heritage from the century which immediately preceded the introduction of the railroad, and the construction and maintenance of highways was then an important function of the National Government administered by a vast bureau or department similar to the department of bridges and roads now maintained in France.

On the organization of the Empire in 1870 the State assumed control of the principal highways and turned the public roads over to the care of the provinces; consequently each of the provinces has its separate system of road administration for road construction and maintenance.

In respect to construction, the German process is identical with that of France, skilled engineers having supervision over all work of this nature. The general construction is of telford, the foundation consisting of stone about 8 inches in height, with a top dressing of basalt, limestone, or other road metal.

Conditions prevailing in Saxony are generally applicable to other subdivisions of the German Empire, and are about as follows:

The general classification obtaining at present is: (1) State roads; (2) country roads, connecting two or more towns; and (3) private ways.

The tolls which were formerly collected on the State roads and bridges have been abolished since 1884. Their general supervision and management of construction are intrusted to a State road commissioner, the technical direction of the work being in charge of the road director. Local supervision in the districts is exercised by the "amtshauptmannschaft," which is the chief executive and ministerial office of the district. The direct technical control, making of plans, engineering supervision, etc., are in the hands of the inspector of roads and navigable ways, who must be skilled road engineers, and who may make contracts for repairs not exceeding \$130. For the execution of larger works the inspector must receive the consent of the amts-hauptmannschaft. A number of State roadmasters are employed who are charged

with the immediate direction of the work of keeping both the State and country roads of their district in repair.

The "connecting" or country roads are maintained by parishes through which they pass. The district board is charged with their supervision. Every parish is left free to determine the manner of raising means for defraying that part of the expense of road construction and repair which is not provided for by the State or district. Some parishes have been authorized to levy poll taxes for this purpose.

The private ways built by land owners on their own land are not subject to ministerial regulations.

In the Kingdom of Saxony the cultivation of trees along the roads has received great attention, and it is stated that in the year 1890 a sum equivalent to over \$30,000 was realized from the sale of fruit grown along the State roads in this Kingdom.

Square-cut stones, painted white, show distances in kilometers, the figures being cut deeply in the stone.

A wide-tire law went into effect in Germany in 1840. It provides that wagons hauling heavy loads, such as coal, brick, earth, or stone, must have a width of tire of at least 4 inches, and that the tire shall be flat and not rounded. Light vehicles must have tires at least $2\frac{1}{2}$ inches wide.

HOLLAND.

The following excellent résumé of the road laws and practices of Holland is a translation of notes furnished by the secretary-general of the Netherlands department of public works, sent to our State Department by Consul Gardner, Rotterdam, 1891:

The general system of dikes in the Netherlands is not created and maintained at the expense of the National treasury. There are, however, some dikes thus maintained in pursuance of early conditions or agreements entered into, with a view to the general interest or because of the utter inability of persons or communities to protect themselves. The general rule of the Netherlands is that dikes are at the expense of those whose property is protected by the dikes.

The public roadways over the dikes are usually at the expense of the several provinces, communities, or "polders" (drained lakes) benefited. Only in certain cases are some parts of these roadways at the expense of the General Government for the same reason as is given above for the Government maintenance of certain portions of the dikes. By royal decree, however, a network of roads is assigned to be maintained by the Government, being so arranged that unhindered communication between the different parts of the country and with adjacent countries is secured.

The materials of which these roadways in the Netherlands are constructed are: (1) Natural stone, (2) bricks, (3) gravel or broken bricks, the material employed differing according as the ordinary traffic is heavy or light. The natural stone is used and recommended for the heaviest traffic, the bricks and gravel for lighter weights.

It is provided in the constitutional law that the King (the Queen regent) shall have supervision of all matters relating to "waterstaat," thus also including the dike roadways; while the law also provides that the provincial States, respectively, are to be charged with the adequate supervision of all public roadways within their own limits.

The artificial roadways over the Netherlands dikes are, for the most part, gravel roads. The total length of roadways in this country maintained by the Government is 1,177 miles. This figure does not include roads running alongside of canals or over Government dikes. The cost of maintenance of each kind of roadway can not be given, as such cost is not separately specified in the contracts, which are usually made for three years.

The influence of the steady improvement of roadways in the Netherlands upon the value of real property is not easily stated in figures, as there are many other modifying conditions. In general and naturally it can be said such influence is very important.

Finally, it is to be mentioned that several principal roadways have been and still are made and maintained by the various provinces with subsidies from the Government of the Netherlands, and by various towns with subsidies granted by the provinces.

ITALY.

The system of roads and road making in Italy is very clearly explained in the following report by Consul Jones, Messina, Italy, 1891:

In Italy the minister of public works sees to the laying out, making, repairing, and police supervision of the highways.

Carriage roads are divided into National, provincial, communal, and vicinal roads.

National roads.—Those which connect the chief cities of the Kingdom with each other and with the seaports, the magnificent roads across the Alps and Apennines, and military roads solely for strategic use. When two cities become united by a railway their National road becomes a provincial road.

Provincial roads.—Those which connect the capitals of different provinces; those which connect the capitals of the respective provinces with the seats of the several districts into which the provinces may be divided, and those which connect the capitals of the provinces and the seats of the several districts with the nearest ports.

Communal roads.—Those which connect the county seats with the other towns in their districts; those which run through villages; and those which run from the county seats to the parish churches, cemeteries, and railroads.

Vicinal roads.—All other public roads are vicinal roads, and are kept up by the communal authorities.

The land used for National roads is Government property; the provincial roads belong to the provinces; communal roads to the communes. The public squares in cities and villages form part of the communal highways. National and provincial roads within the limits of a city or village belong to the communal highways.

The Government builds and keeps up the National highways. Tolls on these roads have been abolished, except on ferries and floating bridges.

The cost of building and keeping up provincial highways devolves upon the provinces, which may levy tolls by royal decree. Provinces may also levy a per capita road tax. In the province of Messina this tax is 4 francs, or 80 cents, or three days' work on the road per annum per head.

The cost of building and keeping up communal highways devolves upon the respective communes. These expenses are paid out of the communal revenues or by a special tax levied by the communes. The communes have the right to establish tolls, which, however, must be abolished as soon as they shall have realized the cost of the road.

The keeping up of such portions of National and provincial roads as pass through a city or village falls upon the commune, the government or province paying over annually to said commune a sum equal to the cost of keeping in repair a stretch of road of equal length near the city or village.

National, provincial, and communal roads are invariably macadamized. A road-bed 20 centimeters (nearly 8 inches) deep is dug out and filled in with broken stones, which, after being well watered, are packed down by means of a heavy roller. A layer of earth of sandy or calcareous character is then added, and when thoroughly rolled is well watered and again rolled until the surface becomes firm and smooth.

The width of National and provincial roads is 8 meters (say 26 feet); the average cost per kilometer 30,000 francs, or \$6,000. The width of the communal road is 5 meters; average cost per kilometer, 20,000 francs, or \$4,000.

RUSSIA.

Russia is far behind the nations of western Europe in the matter of road building. The following from a report of Consul Crawford, at St. Petersburg, in 1891, indicates the state of affairs at that time:

The streets and roadways of Russia are in a very primitive condition, and every year some new method is introduced from abroad looking toward the betterment of streets and highways.

The highways are the work of the ministry of ways and communications, and are made and maintained at the expense of the Government, no special tax being levied for this purpose. Toll bars exist only on the eastern Siberian highway, by which most of the tea is imported from China into Russia, coming through the Irkutsk custom-house. There the peasants, who make a regular business of carrying these goods to and from Russia, pay a certain tax per horse or wagon, and although this toll is very small it is more than sufficient to maintain the road in good order, and the surplus goes toward making new roads in Siberia.

Each province in Russia has its own management or zemstvo, which receives taxes, expends such sums of money as have been allowed, and renders full statement of the general affairs to the different ministries.

In this manner, when there is a surplus in any province it is not turned over to the Government, but is used for the public improvement of the province. Thus these provinces levy no tax for the roads, and it follows that the Government grants them certain monetary benefits.

In some parts of the Empire, in the Crimea, for instance, the roads are naturally

very good, but this can not be said of all the provinces, for in the provinces of Tamboff, Saratoff, Kharkow, Riaxan, and Novgorod the roads are very bad, and apart from putting wooden bridges where absolutely necessary, and posts in the ground every 10 or 15 yards to indicate that it is the highway, nothing is done for their maintenance. Horses run in 1 foot of dust in dry weather and are up to their knees in mud during wet weather, while all communication ceases in autumn and spring, and this is the reason why all traffic or business in Russia is done in winter with sleighs.

It can be said that only such highways exist in Russia as have been built by the ministry of ways and communications and which are under its supervision.

The roads in the environs of a city are maintained entirely at the expense of the town. Their maintenance is given out under contracts, a definite sum being allowed per verst, and no tax is levied for this purpose. The roads are made of crushed cobblestones, which are placed about 1 foot deep along the road and beaten into a solid mass with sand earth by the use of a heavy roller moved by horse power.

SPAIN.

The first paved roads in Spain were built by the Carthaginians. The Romans later built thousands of miles of improved roads in Spain, some of which were of the best and most durable character.

The present status of road making in Spain is shown in the report of Consul Bowen, Barcelona, 1891:

In Spain country roads are of three classes—National, provincial, and rural. Those that are national are paid for by the nation and those that are provincial are constructed under the management of provincial committees, who spend not any fixed sum during any term of years, but such sums as from time to time their work requires. Each province has a provincial committee. The national roads are equally cared for throughout Spain, and are declared, officially, to be equally good. The provincial roads, on the contrary, vary. Those in the wealthier and more public-spirited provinces are equal to the national roads, while those in the poorer and more lethargic provinces are hardly worthy of comparison with anything, except perhaps with one another. The material used is principally small, compact, hard stone, sometimes granite, sometimes limestone, and sometimes sandstone, according to the locality; and the system of construction is always that which was conceived by Macadam. The cost of construction depends on the kind of stone used and the distance it is drawn, but it never rises higher than 32 cents nor lower than 21 cents the square meter for an average thickness of 20 centimeters. The annual expenditure for repairs amounts to $3\frac{3}{5}$ cents the square meter. It is the opinion of all the bicyclists with whom I have talked in Spain that the roads in northern Spain are fairly good, while the roads in southern Spain are execrable.

The government of the third class, or rural roads, is mainly under the civil governor of the province, though final appeal may be carried to the ministro de fomento.

SWITZERLAND.

This little republic is in the front rank among the nations in the matter of building and maintaining good roads notwithstanding the enormous difficulties which it has been necessary to overcome. The following statement is summarized from the reports of United States consuls made to the State Department in 1891:

The mountainous nature of the country and the severe tests to which the roads are put by the sudden swelling of the water courses have rendered road building of primary importance in this country, and the great necessity for international communication from France and Germany on the one hand to Italy on the other tended to further good road construction at an early period.

There exists to-day as well-known traveled routes a number of the old Roman roads, which have been laid out with as much engineering skill as could be obtained at the present day. Nor were the Roman valley roads through Switzerland less judiciously laid out or less thoroughly constructed, for they coincide in the main with the leading railway and post routes of the present time.

On the breaking up of society which followed the invasion of the barbarians and the fall of the Roman Empire, the Roman roads, although in continual use, fell out of

repair and finally into ruin. The first great construction of the new era was the Simplon Pass, begun in 1800 by the Emperor Napoleon, and finished in 1804. This was followed by the Bernardino (1818-1821), the Splügen (1818-1823), the Julier (1820-1826), the Maloja (1827-28), the St. Gotthard (1820-1830), the Furka, Oberalp, Albula, Fluela, Bernina, Offenberg, Lukmanier (finished in 1876), and the Brunig. These great mountain roads, with the highways following the water courses, or traversing the lowlands, form the skeleton of the system to which all the lesser local roads are attached.

Mr. S. Bavier, minister from Switzerland to Italy, published a most interesting work ("Die Strassen der Schweiz") in 1878, on the roads in Switzerland. He estimates the mileage of turnpikes at that time to have been 8,388, or 3 miles of road to every thousand of population. With justice, Mr. Bavier observes that Switzerland's network of highways, extending even to her remotest valleys, constitutes the pride and glory of the land.

The classification of roads in the canton of Zurich, as given below, is generally applicable throughout the country.

The public roads are divided into three classes: To the first class (turnpikes) belong those roads which serve as the means of communication between the larger sections of the canton, embracing several townships, or connecting with similar roads in adjoining cantons.

To the second class (connecting roads) belong those roads which serve to connect the chief sections of a single township with each other, or with first-class roads, or with railway and steamboat stations.

To the third class (side roads) belong all those roads not embraced in the first and second classes, as well as all public footpaths.

The following authorities are competent to take action with regard to classification, construction, and repair of roads, viz: For first-class roads, the cantonal council; for second-class roads, the district council, subject to the cantonal council's approval; for the third-class roads, the township.

Laws are rigidly enforced concerning the construction and maintenance of roads, tree planting, erection of guideboards, use of wide tires, etc.

Isaac B. Potter, in his History of Macadam Roads (1894), says:

In Switzerland the great mountain passes are all crossed by roads of substantial design and splendid surface and the roads in the valleys are kept in continually good condition. The entire republic is divided into 22 small states or districts called cantons, having an average area of about 700 square miles each. Every cantonal government is charged with the care of roads within its jurisdiction. The cost of road construction and maintenance in each case is divided between the canton at large and the local subdivision or "commune" in which the road is located; but the Swiss general Government has a general supervision over all roads within the Republic, receiving and considering all reasonable complaints brought to its notice by the press and by private citizens, and remonstrating with the cantonal authorities whenever necessary. As the central authority contributes in all proper cases to the construction of new roads within the several cantons, and as these contributions depend upon the discretion of the Government, the cantonal road officers are quick to respond to every demand for reform that comes with the approval of their superiors. The Swiss roads vary in width and somewhat in style of construction, but they are mainly macadam roads, and the country roads have in all cases a macadam surface.

NOVA SCOTIA.

Mr. Martin Murphy, government engineer of the Province, writing in 1890, has this to say concerning road matters in Nova Scotia:

In 1889 the roads throughout the Province, under the supervision of the municipal councils, had become so bad that it became necessary to make a special appropriation of \$300,000 for better construction and repairs. The government took the work in hand, employed more skillful supervision, and effected such improvement on the great roads that in the season of 1890 the further appropriation of \$200,000 was granted, to be expended in like manner.

The means available for the construction and maintenance of roads in Nova Scotia are derivable from statute labor and from government appropriation. The former source, although quite a factor if judiciously applied, is becoming almost useless in the hands of the municipal authorities. Owing to the limited means at the command

of the government for annual grants for roads, the question of keeping them in good order becomes one of "how, with limited means, the best and most permanent results can be obtained." With such results in view one must be guided by the locality, the facility of obtaining suitable materials, and the traffic which the road is intended to accommodate. The nearest approach to the solution of this problem will be found in the employment of skillful supervision.

ONTARIO.

In 1890 Consul Twitchell, Kingston, Ontario, reported as follows concerning the roads of Ontario:

In the Province of Ontario the government, in surveying new townships, establishes the principal roads known as concessions and base lines, and subsequently opens up and constructs roads leading from the older settlements known as colonization roads. This work is provided for from a fund known as a colonization fund, set aside by the provincial or state government and drawn from the provincial exchequer. This fund appears in the estimates of the annual budget. Such work is usually performed under the supervision of overseers appointed by the department and is strictly a government work. Subsequently, as the township progresses from a colonization state, the roads come under the municipal control and are thenceforward opened up and kept in repair by statute labor, being in proportion to the assessed value of property. There is also what is known as a poll tax, which is an imposition of two days' labor upon all males between the ages of 21 and 60, respectively. This, however, is superseded when a party becomes assessed.

The following report, made a decade later, shows the trend of legislation on the subject in this Province. Hon. A. W. Campbell, commissioner of highways of Ontario, in his report for 1900, says:

Good roads are essential to the full development of agriculture. In a country such as Ontario, dependent upon agriculture, this means that good roads are of very great importance to the towns and cities as well. The towns have been created by the country, and as the country prospers so will the towns progress. Good roads are not a benefit to any one class of the community. They are of universal value. This is a matter of which too narrow a view has been taken in Ontario. If we must have canals and railways, then we must have good country roads. It has been taken for granted that if the country as a whole constructed canals and subsidized railways, the common roads could take care of themselves. But this has not been the case.

The broader aspect of the question has recently been given prominence by the decision of the provincial government to appropriate \$1,000,000 for road improvement. This, for lack of a better name, has been termed government "aid" or "assistance." It is a recognition of the value of good roads to every citizen of the country, and a just effort on the part of the government to cooperate in procuring them.

The object of the present measure is not so much to aid by the gratuitous distribution of money, but has for its aim a nobler purpose. While it aims to encourage the doing of a work which is acknowledged by all as being an important and necessary service, its prime object is to equalize and lighten the cost. The unfairness and injustice of the present system of taxation for highway construction is so noticeable as to be a matter of wonderment that some step of this kind has not been ere this devised by government, or compelled by the people.

The government is only exercising its rightful function as a part of the administrative system in providing a portion of the cost of making roads and distributing the money among the different municipalities entitled to it. This function can be performed by the provincial government only.

In States of the American Union where this plan is adopted a direct tax is imposed and collected annually. Where this is done some opposition is encountered from the cities and towns, and from those now made to pay who formerly escaped this tax. Fortunately, in Ontario, from the natural resources of the Province sufficient surplus funds have been provided to permit this appropriation, and all that is asked of the people of the cities and towns is to forego their claim and allow the funds to be diverted for the making of good country roads.

In Ontario the width of tires shall not be less than $2\frac{1}{2}$ inches for a load of 500 to 1,000 pounds on each wheel. For loads of from 2,000 to 3,000 pounds to the wheel each wheel shall have a width of not less than 6 inches.

BRITISH COLUMBIA.

The advanced position of this province is shown by the following, taken from a report of Consul Myers, Victoria, British Columbia, more than ten years ago:

I have been unable to ascertain the exact per cent of the total revenues of the province put into roads each year, but it must be a very high rate, and it has required courage to make such an expenditure of money. The total receipts of the province are less than \$1,000,000 per annum; yet out of this meager resource and where the surface of the country is broken everywhere with rocky hills and narrow valleys, covered by a dense growth of Douglas and other firs and further obstructed by dense underbrush, etc., fine roads wind everywhere, and in the vicinity of Victoria and the chief towns of the mainland they are the delight of tourists, and are among the principal agencies in opening up otherwise inaccessible forests and mines. How has this been accomplished?

In the first place, and chiefly, the provincial government has entire charge of all road work. I emphasize this point because, in my judgment, it is the key to the success of the system that prevails here. Road work is not left to local caprice, nor is it placed in the hands of incompetent or inexperienced persons. The department of lands and works determines where a road is needed, and then it is laid out by a competent engineer, and thus the roads of the entire province are related to one another. The government not only determines where the road shall be, but how it is to be made, who is to make it, and what the cost shall be, and then it pays the bill out of the public treasury. There is no special tax or special road appropriation. The work of construction is under the supervision of competent civil engineers and foremen who have what may be regarded as liberal salaries. The latter receive from \$100 to \$150 per month. All work is done thoroughly and with great system, and the work of one year is the foundation for the work of the following year, according to the general plan of improvements.

The government makes all the principal trunk lines and nearly all of the branches. It also owns and operates steam machinery, drills, and rock crushers. Where rock and gravel are not available, corduroy, plank, etc., are employed. Roads in use are kept in repair by annual appropriations.

NEW SOUTH WALES.

Considering their recent date of settlement the Australian colonies have made great advancement in the building of improved highways. Laws and methods in force may be judged by the following from the report of Consul Griffin, Sydney, 1891:

The public roads in New South Wales and, indeed, in all the Australian colonies from the first settlement of the country, have been built in the most substantial manner. At first they were constructed entirely by prison labor. The New South Wales road department was organized in 1857, and Mr. T. A. Coglan, the government statistician, states that, although good service was done by the road pioneers before that date, the modern system of road making may be said to have begun with the creation of the road department. It was not known until 1867 that the whole of the roads received attention at the hands of the State. The department of roads has also the control of the bridges, ferries, etc. Among the duties devolving upon the department are the selection of the work and the disbursement of the funds voted annually for the purpose.

It being almost impossible to insist on any one uniform mode of constructing the roads, it was decided to adapt them, as far as possible, to the conditions of the country through which they were to pass, with a due regard to the requirements of the traffic and the quantity and quality of the material available.

The public roads have nothing like the importance they formerly possessed, previous to their having been superseded for the most part by the railways. The tendency now is to make the roads act as feeders to the railways by conveying the traffic from outlying districts toward the convenient stations along the railway lines. The length of the roads is estimated at about 30,000 miles. Of these, 6,500 miles have been formed, metaled, and graveled; there are 4,500 miles not metaled, but drained, and upon which culverts have been built; 7,000 miles of road through the forests of the interior marked out by cart wheels, and 1,400 miles through mountain passes,

some of which presented difficulties almost insurmountable, and in their construction great engineering skill was displayed.

The colony is divided into 54 road districts and 400 road trusts. The districts are managed by superintendents or engineers. The trusts have supervision of certain grants for the maintenance of roads of minor importance. There are also a number of important road trusts in the vicinity of Sydney, all of which are well managed.

Annually votes are obtained from Parliament: First, for the main roads referred to, and secondly, for such of the minor roads as may be considered of sufficient importance to be specifically dealt with, in which case each road is described by name and placed upon the schedule having a certain sum of money allotted to it according to importance. In addition to these votes a considerable sum is annually voted under the head of unclassified roads. This amount is distributed by the minister for public works for expenditures, upon presentations made, and after report of the officers referred to.

Special votes are made for the erection of bridges by Parliament, and also for repairs to same.

EDITORIAL UTTERANCES OF LEADING PERIODICALS IN FAVOR OF NATIONAL AID TO ROAD IMPROVEMENT.

Periodicals of all classes, and published in all sections of the country, have recently taken up the discussion of the National-aid proposition, and the strength and unanimity of the favorable sentiment expressed is remarkable. Hardly more than 1 per cent of the papers expressing editorial views on the subject have opposed National aid.

The following are brief quotations from a very few of the many editorials which have appeared in representative periodicals of all classes:

[From the Cleveland Leader.]

NEED OF GOVERNMENT AID.

It is nothing new to have efforts made in Congress to interest the Federal Government in the improvement and construction of roads in various parts of the country. That is naturally an old story, in a land as deficient as the United States is in well-made highways. But it is worthy of note that the pressure in the direction of National aid in road building is becoming stronger from year to year.

This change will grow more important with the filling up of the country, especially with the increase in the number of city people who maintain rural or suburban homes. The necessity of calling upon greater resources than those of the strictly agricultural population for the development of an adequate system of good highways is certain to be more clearly perceived as the statistical side of road building receives more careful attention.

To make good roads, such as can fairly be counted on to resist the action of frost, intense heat, and all the changes of American climate requires greater expenditures than rural taxpayers can properly be asked to make. The cities send an increasing army of pleasure seekers into the country every year, and such roads as are needed for their automobiles, horse vehicles, and bicycles can not be constructed without some use of the wealth accumulated in great centers of trade industry.

It is difficult, of course, to arrange a satisfactory division of authority and financial responsibility between the nation, the States, and local governmental bodies in the building and maintenance of roads, but it is easier to solve that problem than it is to discover any way of making the United States what the leading countries of Europe are in the matter of public highways without help from the National Treasury.

[From the Manufacturers' Record.]

IS NATIONAL AID PATERNALISTIC?

Many objections will be made to this bill of Mr. Brownlow's. Some of these objections will come from honest men—men who were taught a different theory of Government from that which exists to-day. The greatest objections, however, will

come from two classes: First, those who affect to regard it as paternalism in the Government, and those who belong to a class of politicians who, to be consistent, must be unprogressive; who sit in darkness on the dry branches of a dead era and brood over the past and hoot at those who prefer to live among the green branches of prosperity and influence. Such politicians as these consider prejudices as an evidence of wisdom and patriotism. They vent their indignation against all who do not sing the lugubrious song of their infinite pessimism.

The objection raised because of the so-called paternalism in this bill is puerile, inconsistent, and irrational. It is pure demagogery. The regulation of public affairs by the Government is not paternalism. The building of post-offices, the carrying of the mails, the collection of the revenues, the regulation of commerce, and the building of highways are all objects in which every class is interested. These things do not enter into the private life of a citizen. Should the General Government prescribe "what we shall eat, or what we shall drink, or wherewithal we shall be clothed," it would be paternalistic in character. It would indeed be an enervating paternalism, destroying individuality and repressing energy. The Government, in aiding to build roads, would stimulate industrial activity, while it would, at the same time, arouse the highest ambition in the citizen, command his loyalty, and insure an ardent patriotism.

[From the Atlanta Constitution.]

A NEW DEPARTURE.

While National improvement of public highways may seem something of a departure, it is nevertheless but a return to one of the early policies of the Federal Government. Before the railroad was thought of, the infant Republic laid out and improved roads between important commercial centers, Congress voting appropriations and regulating the plan of work. After the railroad came there was no further aid of the kind for wagon roads, but Uncle Sam did not hesitate to help build a transcontinental railroad. It will not be forgotten, in this connection, that the Government expended a million or more in building the Chesapeake and Ohio Canal.

It is a lamentable fact that road building, as conducted by the average local supervisor, is about as effective and lasting as water poured in a sieve. The first prolonged rain puts the wayfarer back into the same old slough of despond, hub deep, and in the spring the taxpayer proceeds as before. Macadam and other permanent roads are enormously expensive, though it is true that the average country township, where road working is respectably prosecuted, in the course of years pays more for its treacherous dirt roads than it would have paid for a serviceable pike. However, the same argument will apply to the luckless individual who has to pay for a necessity on the installment plan. The rub is in getting together the funds to have done with the whole business at once.

The Federal Department of Agriculture has already done good work along the line of road improvement, though mainly in an instructive way. It has constructed sample pieces of good roads for the edification of backward communities, and the "good roads train" sent into the South last year was a valuable start of the educational propaganda. Representative Brownlow now proposes to extend the idea and clothe the Department with some real authority in the premises. The Government is not only to instruct but to foot half of the bills, the State, county, or individuals to pay the other half. For purposes of construction the bill carries with it an appropriation of \$20,000,000, of which no State shall receive in aid of construction a greater proportion than its population bears to the total population of the United States. The public interests seem to be properly safeguarded and every provision of the measure carefully thought out.

The Brownlow bill has much to commend it, and it stands for a sound, worthy principle of government, designed to benefit not a class, but the whole people. The good roads agitation is beginning to show results.

[From the Chicago Tribune, November 26, 1903.]

NATIONAL AID FOR GOOD ROADS.

The policy of voting Federal aid to road improvement has three great advantages over that of voting funds for river and harbor improvements:

1. While the money voted for the latter purpose is collected from the whole people by taxation it is necessarily expended in limited localities, the inhabitants of which

receive the greater part of the benefits. In fact a great majority of the people of the United States receive no direct and but little indirect benefit from these improvements. On the other hand, a Federal appropriation for road improvement would be available for use in any section. Every State and almost every county and township could share in the direct benefits, while large indirect benefits would come to the people of all cities and towns.

2. The benefits flowing from an appropriation for river and harbor improvement are strictly limited to the amount of money voted, as no help is required from the local communities. But the plan embodied in the Brownlow bill merely contemplates that the Government shall help the people who are willing to help themselves. No community could enjoy the Government aid until it had voted to raise a large share of the expense by local taxation. Thus a Federal appropriation for this purpose would produce benefits far beyond the limits of the amount voted.

3. One bad feature of the river and harbor legislation is the "log rolling" indulged in by legislators who are anxious to secure funds for improvements in their districts or States. This often injuriously affects legislation of all kinds, for many members subordinate everything else to this. National aid to road improvement as now advocated would be wholly free from this bad feature, for the funds would be equitably distributed according to a general plan. The Government would simply make available a sum of money an equitable share of which could be secured by any State or county complying with certain specified conditions.

It is difficult to see how anyone can believe in National responsibility for internal improvements without favoring National aid for road building.

[From the Springfield (Ill.) Journal, December 12, 1903.]

GRANGERS FOR GOOD ROADS.

It is no wonder, then, that the National Grange favors the inauguration of a National policy for the improvement of highways and the appropriation by Congress of a liberal amount to establish a comprehensive system of road improvement through the cooperation of the Federal and State governments, and agrees that the general features of the Brownlow bill embody, with some modifications, the essential feature of such a policy. The grangers have authorized their legislative committee to inaugurate and conduct an aggressive campaign to secure the passage of such a bill and have called for aid from "State, pomona, and subordinate granges" in the campaign. This action will set in motion a tremendous force for the cause of good roads, a force that has accomplished great things and is capable of accomplishing more.

[From the Los Angeles (Cal.) Times, November 4, 1903.]

CONGRESS AND GOOD ROADS.

It may be set down as a foregone conclusion that local and State authorities will freely cooperate with the National Government if the Brownlow bill, making such cooperation practicable and possible, should become a law at the coming Congressional session. Such a consummation would unquestionably give a greater impetus to road construction in the United States than any and all other influences combined.

[From the Binghamton (N. Y.) Leader, January 21, 1904.]

GOOD ROADS WITH FEDERAL AID.

It is widely hoped that the policy of Federal aid will be found to be applicable to the construction of good roads. In scarcely any other way could the National purse be opened with the prospect or possibility of contributing so nearly to the general advantage. Special interests have for so long a time and so exclusively felt the invigorating influence of the Government's beneficence that it is really about time that something was done for the general interest. A small part of the taxes the people pay may properly and justly be used for the people's benefit.

[From the Nashville (Tenn.) Banner, January 15, 1904.]

GOOD ROADS.

The movement in favor of good roads is an important one. Nothing would contribute more to the growth and general development of the country, and Senator Latimer's argument that the burden of building and maintaining good roads should

not devolve alone on the farming communities seems entirely sound. Good roads are important to interstate commerce, and the Government needs them in the establishment of rural-delivery mail routes.

[From the Oshkosh (Wis.) Northwestern, January 20, 1904.]

THE BROWNLOW GOOD ROADS BILL.

During the past forty years the improvements in transportation facilities have done much to build up the cities and increase the value of urban property, and the advocates of better roads claim that it is now time to turn attention to bringing the same advantages to bear on the dwellers of the country districts. The National Government has fostered and aided the manufacturers of this country in a most noteworthy manner, and it annually expends millions of dollars in public improvements intended for the general good. Last year it appropriated \$32,540,199 for improving the rivers and harbors of this country, and during the last ten years it has expended a total of \$176,226,934 for this same work. It annually pays about \$140,000,000 to pensioners and their families. It is also planning to expend \$200,000,000 for the building of a canal across the Isthmus of Panama, and the amount spent in providing public buildings in the larger cities of the country runs up into the millions.

There is good reason, therefore, for the claim that the Government should now do something for the farmers of the country, and in no better manner could this plan be accomplished than by carrying out the provisions of the Brownlow bill, which would not only favor the country dwellers themselves, but result to the advantage of the cities as well. The amount proposed to be expended in this manner is comparatively small as compared with other great enterprises of the Government.

[From the Fort Wayne (Ind.) News, January 19, 1904.]

PRACTICAL MOVE FOR GOOD ROADS.

The time has come when the public in general in this country has an equal interest at least with the farmer in the building of good roads. The proposition, therefore, to give him National, State, and county aid to provide good roads is entirely fair. The roads would prove another bond knitting the people closer together and American institutions more firmly entrenched against evils. It will be a means to make the farm more desirable, because less isolated and more profitable. No argument justifying the expenditure of public money for river and harbor improvement, for which over \$32,000,000 was provided last year, but what appeals with equal force to the Government aiding good-roads construction.

[From the Tacoma (Wash.) News, January 21, 1904.]

FEDERAL AID FOR ROADS.

The measure has the unqualified indorsement of the National grange, and commends itself to all advocates of good roads. Applications for the extension of the free rural-delivery system are being refused by the post-office authorities on account of the roads, and the disappointed communities demand their improvement. These demands are so in excess of the ability of the local boards to respond to that for a year past highway commissions all over the country have been putting themselves on record in favor of National aid.

No State in the Union is more deficient in good roads than Washington, and nowhere would the benefits of a Federal appropriation be more highly appreciated.

[From the Houston (Tex.) Herald, January 22, 1904.]

THE BROWNLOW BILL.

The Government has a larger income than its expenditures. The Brownlow bill appropriates about 10 per cent of the Government's idle surplus for the direct benefit of the farmer; for the indirect but not less sure benefit of every citizen. Good roads has long been the cry of the Chronicle and other Texas papers. Good roads are particularly needed in Texas. They are also sorely needed in most of our States. The Brownlow bill should pass. Every patriotic citizen in Texas and, indeed, in the country should write to his Congressman urging him to exert his utmost endeavors to secure its passage.

[From the New York Press, January 25, 1904.]

GOOD ROADS, BUT NO GRAFT.

Congress has no more widely useful measure of domestic legislation in hand than is contemplated in the bill put forward by Representative Brownlow and Senator Gallinger to give National aid to the good-roads movement. The plan is to make a liberal appropriation, which will be available for the payment of half the cost of building new roads, the other half to be paid by the State, county, or local political division benefited by the improvement.

There is no doubt that the American farmer directly, and the whole people indirectly, would gain much by the stimulus the good-roads movement would receive from a Federal appropriation sharing with the State half the cost of new roadways.

[From the New Orleans (La.) Democrat, January 31, 1904.]

GOOD ROADS.

Under the Brownlow bill Louisiana will receive \$400,000 from the Federal Treasury to assist it in road construction. Its roads are about as bad as those of any State in the Union, and while a few parishes have done something in this connection by special taxation or appropriations made by the police jury, most of our highways are bad at all times and well-nigh impassable during a rainy season, entailing an onerous tax on both farmer and merchant. Louisiana has shown a deep interest in good roads and has held several conventions or conferences on the subject. All it needs is encouragement and stimulation; and there can be no better way of giving this encouragement than through the Brownlow bill.

[From the Jacksonville (Fla.) Metropolitan, February 1, 1904.]

THE GOOD ROADS QUESTION.

The passage of what is known as the Brownlow bill by Congress would be material help and bring results much earlier than the slow and limited plan of county and State taxation. Florida would be so much benefited by a system of good roads that everyone should join in the demand for National aid.

[From the Batavia (N. Y.) News, February 6, 1904.]

FEDERAL AID FOR HIGHWAYS.

But one argument, so far as has been noted, has been advanced against the bill, and that, as expressed by the Washington Post, is that it is a piece of "alluring paternalism." Alluring it certainly is, and as to the paternalism it is no more of a crime to paternalize the highways of the country than it is its rivers and harbors or its vast areas of unirrigated desert. Indeed, if New York State can afford, in its generosity, to construct a barge canal mainly for the benefit of western grain shippers, a work which, if done at all, properly belongs to the National Government to do, it will be no harm for the National Government, in return, to divert a portion of its appropriation funds from the improved-to-death rivers and harbors, and in return help us on our highways.

[From the Northfield (Vt.) News, February 2, 1904.]

FOR PERMANENT ROADS.

The idea of Government aid in State road building is everlastingly right, and unless such aid is given it will be many years before the small States will have much of this needed improvement.

[From the Washington (D. C.) Star, January 25, 1904.]

GOOD ROADS AND GOVERNMENT AID.

Time and again the fact has been proved that on a scientifically built and conscientiously maintained highway more produce can be moved to market in less time with fewer head of draft animals than under the average condition of the roads.

This proof has been concrete and convincing, yet the awakening from the old, conservative, stingy lethargy has been slow, and at the present rate of progress many years will pass before the highways of America begin to show any appreciable betterment. It is evident that if the Federal Government does not take the initiative and foster the work already undertaken by a few of the States this great enterprise, so essential to the advancement of the country, will lag.

[From the Camden (N. J.) Telegram, January 23, 1904.]

AN APPROPRIATION FOR GOOD ROADS.

A National good roads policy would extend to all the States the benefits now enjoyed by the few where a progressive and liberal spirit has undertaken the task of improving the highways, while Federal supervision would insure uniformity in construction and permanency and at the same time would keep in view the strategic value and utility of these roads in case of war with one of the great European powers, when an invasion of our country might be attempted.

[From the Springfield (Mass.) Union, January 20, 1904.]

NATIONAL AID IN ROAD BUILDING.

We presume it will be urged by the opponents of this bill that it savors of paternalism, but the Union does not see how this objection can be successfully sustained. Highways are avenues of internal commerce to a less degree only than rivers. The Government has spent in the last ten years more than \$176,000,000 for river and harbor improvements. Foreign governments do more than extend National aid for the construction of good roads. Many build them at the expense of the Nation. For instance, France has 23,603 miles of National highways built and maintained by the Government. Italy has 5,000 miles. It is a wise policy for our Government to do something for the betterment of our roads. Good roads are as much of an aid to commerce as navigable rivers. Just as the Government has aided the commerce of cities let it now aid the commerce of the country towns by helping the farmer to secure good roads over which to haul his produce to market.

[From the Pittsburg (Pa.) Press, January 20, 1904.]

FEDERAL AID FOR GOOD ROADS.

Each State receiving National aid from the Government must, however, add a like amount to the sum received. This will, therefore, cause the spending of \$48,000,000 for roads, and will build from 6,000 to 7,000 miles of splendid road, and will place in each State from 100 to 500 miles of fine, hard road, which will not be affected by frost or spring rains and on which the farmer can haul the year round. It will be a great advantage to those living near it, but it will be a far greater advantage to the whole country, because it will be a wonderful object lesson and will prove to everyone that a good, hard road which can be used the year round, no matter what the rains are, is a good and desirable thing. It will make everyone who sees this road and who uses it want more roads just like it, and it will cause more roads just like it to be built. It is estimated that \$1.25 will haul a ton of average farm merchandise 5 miles on a common clay road and 15 miles on a well-made stone road (or 250 miles on a railroad). The economic advantage of good roads is therefore almost inconceivably great. France, a small country compared with this, has 24,000 miles of fine wagon roads, built and maintained by the Nation. The United States has none. Any good roads we now have we owe to State, not Federal, appropriation. It is thought the appropriation proposed in the Brownlow bill will be exhausted in about three years. Pennsylvania, which last year appropriated \$6,500,000 from her own resources, would receive from the Government \$1,800,000 if the Brownlow bill passed. It is a measure that ought to be supported by every Pittsburg Representative and every Pennsylvania Representative in Congress.

[From the Richmond (Va.) Leader, January 27, 1904.]

GOOD ROADS IN CONGRESS.

The discipline, energy, vigor, and precision of Government officers is very hard to find in our States and cities where personal, social, and political connections and influences hinder and tangle public work.

The power of the General Government can be used also in bringing about uniformity of method and combination of forces among the States. If all the counties and States of the country could be brought to work together at the same time and in the same way and to a common end, enormous results would be accomplished rapidly. The Government can do more, and at small expense to the Federal Treasury, by inspiring and developing the good-road sentiment and molding and directing it to concerted and comprehensive effort than it could by vast appropriations and contributions of money. Given the sanction and organized moral backing of the General Government and the service of its trained officers and engineers, the States may be trusted to respond promptly and strongly to every movement for better roads.

In Virginia the masses of the people are ready and willing to spend their money for good roads. They lack leadership and definite plans, methods, and organization. With each county fighting on its own hook, we are in the position of a mob, working idly and beating about, anxious to do something, but lacking the cohesion, knowledge, and direction to do it.

[From the Philadelphia Telegraph, January 18, 1904.]

FOR BETTER COUNTRY ROADS.

It is a rather remarkable fact that the development of railroads in this country should have been more rapid and extensive than in any other part of the world. We have to-day more miles of railway than the aggregate mileage of all other countries together, while at the same time our system of wagon roads, which is no system at all, is probably poorer than that of any other civilized Nation. We are now, as a people, intending to spend two hundred millions of dollars in building a canal outside of our own territory above and beyond all that we have done and are doing for the promotion of water transit. Is it not time that the people represented by the Government should make a beginning, at least in undertaking to extend and improve the facilities for what may be termed "domestic transportation" on the lines of country roads wherever these are needed, as they so sorely are, in nearly every settled neighborhood? The Brownlow bill provides very judiciously for determining where such roads are really wanted by limiting the extension of aid to those rural communities where the people are willing to furnish an amount of money equal to that given by the Government. The purposes of this bill should unquestionably receive the hearty approval of every thinking man in the United States, without respect to political or other affiliations.

[From the Wilmington (Del.) News, January 3, 1903.]

CONGRESS AND GOOD ROADS.

It is well for the National Government to take a hand in the matter of better roads. It is certainly within the function of Congress to do something of the kind proposed. Congress is especially authorized to "establish post-offices and post-roads," and by the introduction of the rural mail service almost every road has become a post-road. The agitation for good roads and more of them is growing, and Delaware should start in to help itself out of the slough of bad highways, and then, if the Brownlow measure is passed, the National Government can help along the work.

[From the Scientific American (N. Y.), January 10, 1903.]

GOVERNMENTAL AID IN IMPROVING OUR HIGHWAYS.

The system in vogue in some States of appropriating sums of money for road improvement in towns and villages, provided the taxpayers of these places pay one-half or other proportionate amount of the expense involved, has been found to operate so well that the bill recently introduced in the House of Representatives by Mr. Brownlow, for the purpose of establishing a National bureau of road construction, appears to be a logical outcome of it.

[From the New York Times, January 12, 1903.]

NATIONAL AID TO GOOD ROADS.

The principle that the National Government may properly use its revenues for the construction or to aid in the construction of roads between the States was long ago settled. There was a hot fight over it, and Henry Clay won much of his reputa-

tion as a Congressional leader in the contest. When it was finished he was the victor, and the principle has never since been seriously questioned, while the welding of the Union on either side of the Alleghenies must be regarded as largely the fruit of the victory.

Now there comes from the South a plea for an extension of that principle which would have given pause to Henry Clay, but for which there is much to be said. Representative Brownlow, of Tennessee, has introduced in the House a bill "to provide for a system of National, State, and local cooperation in the permanent improvement of public highways."

It is too late in the day to enlarge on the vast benefits of good roads. All intelligent persons understand them. What is needed is the instruction of those who are as yet ignorant and proper cooperation in providing them. Mr. Brownlow's bill has this purpose and is well suited to promote it.

[From the Brooklyn (N. Y.) Eagle, January 12, 1903.]

BROWNLOW'S GOOD ROADS BILL.

Whether or not Congress will invest the Federal Government with power to spend public money in the improvement of property that must still remain under State control is an open question, but the constitutionality of Mr. Brownlow's proposition is not. The creation of the bureau would be quite legal. It would be perfectly proper for Congress to appropriate National funds for the improvement of such highways as are devoted to interstate traffic, or to the purposes of the rural free-delivery system.

[From the Chicago Farmers' Voice and National Rural, January 13, 1903.]

TWO IMPORTANT STEPS TOWARD GOOD ROADS.

In the minds of some there may be objection to the National Government entering upon a work which ought to be done by the several States, but even these must admit that the Government has an interest in good roads. The postal service requires it for one thing, if we are to make rural delivery all that it should be, and as an element in National defense it would be important. And while we do not believe that we need worry about that, the fact remains that we are spending money, and millions of it, for National defense, and all will agree that good roads will serve a better purpose than warships and 16-inch guns.

[From the Chattanooga (Tenn.) Times, January, 1903.]

THE NATIONAL AID PROPOSITION.

We print elsewhere an article written by Congressman Walter P. Brownlow in support of his bill recently introduced in the National Congress to provide for a system of National, State, and local cooperation in the permanent improvement of the public highways and for the creation of a bureau of public roads. Congressman Brownlow has enlisted in the cause of good public roads, and we will be surprised if he does not accomplish something great. In the paper referred to, which was prepared for and published in the Cosmopolitan Magazine, Mr. Brownlow argues satisfactorily and conclusively for the constitutionality of the measure he was advocating, and we haven't the slightest doubt of the correctness of his views. We are cordially in accord with Mr. Brownlow in the matter, and we trust that the people who are to be so greatly benefited by the proposed law will get back of the Congressman and hold up his hand with an enthusiasm and an energy that will give him influence in carrying forward his project. It is not necessary here to argue for the vast good to be accomplished by the inauguration of the plans contemplated by Mr. Brownlow. We commend his valuable and exhaustive article to the perusal of our readers, assuring them that it covers the mooted question involved in the proposition clearly, concisely, and completely.

[From the Knoxville (Tenn.) Journal-Tribune.]

BROWNLOW'S ROAD BILL.

Those who oppose the measure do it on the ground that it is too long to strive in the direction of paternalism. To attempt to supply the rural districts a free delivery of the mails without first having the facilities will be a mockery. It is paternalism to

handle the mails of the people; but it will be of no benefit unless there are roads from which the mails may be delivered. If, as is proposed in the Brownlow bill, counties or States may be encouraged to expend money for better roads, which will mean better farms and increased production and wealth, for taxation, by supplementing local with Government appropriations, then it will be money well spent, and it will all be for the benefit of the people, who are the Government.

[From the Nashville (Tenn.) Southern Agriculturist.]

THE FARMERS WANT BETTER ROADS.

This measure will give the better-road movement a head, as the bill anticipates aid from the General Government, as well as educated engineers to supervise the construction of roads. "Better roads" is the exclamation coming up from the agricultural classes in all the States, and it should have such a power behind it that Congress will not hesitate to pass such a law.

[From the Minneapolis (Minn.) Times, January 15, 1903.]

NATIONAL AID TO ROADS.

This bill does not contemplate the building of roads by the Government without local assistance. Each State, county, district, or township is required to contribute an amount equal to that given by the Government, and the work will be done under the special direction of local engineers or directors.

There are several reasons why the Government should aid in the building of roads. It is for the general welfare of the people; it is necessary to make the rural free-delivery service effective; it has the sanction of precedent, and it will put the United States abreast of other civilizations in this particular. In the matter of road building it must be acknowledged that this country is far behind every other civilized Nation, ancient or modern.

[From the Louisville (Ky.) Courier-Journal.]

BROWNLOW ROAD BILL.

If Congress can appropriate money for the improvement of the rivers and harbors, there is no reason why appropriation should not be made for the improvement of the public highways, which are just as useful to the people. Congress has spent \$444,000,000 for the improvement of rivers and harbors and not a cent for the improvement of roads. The rivers and harbors bill passed at the last session of Congress carried a total that was equivalent to a per capita tax of \$1 on the citizens of the United States. No State or county, or both combined, levies such a tax on the people. Of course the improvement of the rivers is all right and should be undertaken, but at the same time I believe some of the money could be most advantageously used for the betterment of the public roads.

[From Minneapolis (Minn.) Journal, January 19, 1903.]

THE BROWNLOW GOOD ROADS BILL.

While the Government builds canals and improves the waterways and regulates railways doing an interstate commerce business, the States should look after the local wagon roads that feed the traffic of railways and canals. In view of the low estate of the rural highways, it may be advisable for the Federal Government to give some financial assistance for a limited time, but it should not be so much as one-half; a quarter should be enough to accomplish the purpose without unduly loading up appropriations which are even now climbing much too fast.

[From Bangor (Me.) Commercial, January 24, 1903.]

NATIONAL AND STATE ROADS.

If the educational work done by the Government in recent years has done so much to encourage and stimulate road improvement, what may we not expect from this great extension of the principle of National aid? It is sometimes urged as an objec-

tion to National aid that it will cause the people to relax their efforts at road improvement and to depend on the General Government to do the work for them. Is it not likely to produce exactly the opposite result? The large fund which Congress will appropriate for this work will be divided among the States according to population, but no State can secure its share except by complying with the conditions prescribed, the chief of which is that it shall raise a like sum for the same purpose. Instead of discouraging State effort this should greatly stimulate it. Again, if a State takes no action looking to the acceptance of the Government's proffered help, the individual counties may do so, and this, again, will create a rivalry among the counties in their efforts to secure part of the National fund due the State.

The scheme is a great one and far-reaching in its possibilities for economic development. Time and intelligence will be required to work out the details of its application, but there appears to be no serious obstacle, either practical or constitutional, in the way of its realization for the public good.

[Charlestown (S. C.) News and Courier, January 26, 1903.]

FEDERAL ROAD BUILDING.

In spite of this provision, however, it would result necessarily that the States which should not elect to improve their roads, under the terms of this act, would contribute to provide such improvements for their more alert and progressive neighbors, as the improvement fund would be derived from all the States and be expended in those which should choose to employ it. This feature of the scheme would, of course, tend very strongly to induce every State to "get into the game" at the earliest practicable day, and it was doubtless introduced for that purpose. The assumption by the National Government of the direction of the work and of half of the expenses in all cases is another strong inducement, and if the system should be generally adopted and employed, the distribution of the fund according to population appears to be as fair a basis as could readily be devised. The merits of the measure can be judged from this statement of its character.

[Manufacturers' Record, Baltimore, Md., February 12, 1903.]

NATIONAL AID IN ROAD BUILDING.

The theory once was that the General Government was to do nothing that the States could do for themselves. Had this theory been studiously observed it would be a valid objection to the passage of a road law by Congress. But in almost every function of the Government this theory has been overridden in practice. Where, one may inquire, does the authority come from to improve a waterway confined exclusively to one State? This has been often done. Where does the authority come from to establish eleemosynary institutions for taking care of old soldiers or for special objects of charity? This is done by the Government. Draw the line as closely as these doctrinaires would have us do and the Military Academy at West Point, the Naval Academy at Annapolis, the many United States cemeteries would find no warrant in the Constitution so positive and pronounced as the one for the building of post-roads and post-offices. The latter is expressly granted, if not commanded, because they are necessary to carry out the purposes of the Government. The former comes within the implied powers. The actual exercise of the power to build great public highways has been used. The exercise of this power has the sanction of precedent; it has the sanction of usefulness and necessity, as well as the sanction of public improvement. There is therefore as much reason why the people should demand an appropriation for the building of post-roads as for any other purpose for which appropriations are granted, such as the improvement of rivers and harbors, the laying and collection of taxes, duties, imports, and excises, the borrowing of money, the regulation of commerce with foreign nations and among the several States, and the establishment of post-offices. Congress is empowered by the Constitution "to make all laws which shall be necessary and proper for carrying into execution the foregoing powers," etc. If it is "necessary and proper" to build post-offices, to carry out the postal regulations, is it not equally as "necessary and proper" to have satisfactory highways over which the mails may be carried from place to place? It looks like subtleized sophistry to say that Congress has the power to appropriate money for the building of post-offices and none for the building of post-roads. It is a distinction without a difference.

[Nashville (Tenn.) Daily News, February 20, 1903.]

GOOD ROADS.

The question of State rights might complicate this matter of National assistance, but it is very unlikely that it would figure to any extent in the improvement of roads in any State. Mr. Brownlow's bill is large in its scope and conception, and to the ultraconservative view may be regarded with some suspicion. The more it is considered, the less objectionable it appears, and the more advantages it presents. Most important of all, there seems no doubt that its provisions would secure to this country a uniform and excellent road system.

[Philadelphia (Pa.) Inquirer, January 14, 1903.]

NATIONAL AID FOR GOOD ROADS.

Doubtless Mr. Brownlow discovered that a State or county might not be willing to surrender control over the work, and wisely he has inserted a provision giving discretionary powers to the Director to enter into contract directly with the State or county officials. This simplifies matters considerably. Should the bill become a law all that Pennsylvania would have to do would be to agree with the Director as to what roads ought to be improved and the methods of construction and draw on the United States Treasury for one-half the expense until the State's quota of the sum appropriated by Congress should be exhausted. The amount proposed in the bill is twenty millions, and as the money is intended to be distributed among the different States according to population Pennsylvania's share would not be small.

Whether Congress can be induced to go into the project is problematical, and yet the subject is such an important one that it might very well do so. At least it is gratifying that an agitation has begun, and if public interest can be aroused much can be accomplished. Meanwhile the legislature of Pennsylvania should not postpone this good-roads question any longer.

[Huntsville (Ala.) Mercury, March 7, 1903.]

THE BROWNLOW ROAD BILL.

The press of the East, North, and West have generally given the Brownlow bill a strong and hearty indorsement, and the Mercury hopes to see the press of the South speak and give it equally as strong and hearty indorsement. The policy of the South has been too backward and unconcerned along these lines and about such matters. The time has come when we should take our stand and receive our share of the rights and constitutional assistance the Government proposes to give the people. The legislature of Alabama, at its recent session, unanimously adopted the resolutions heartily indorsing the Brownlow bill and instructed our Senators and Representatives in Congress to do all in their power to secure its passage. The good-roads convention, which met in Montgomery some months ago, passed a similar resolution. The Mercury urges upon the people to see their Congressmen and insist on their support of this bill.

